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Society for the Promotion of Engineering Education

VOL. X LANCASTER, PA., MARCH, 1920 No. 7

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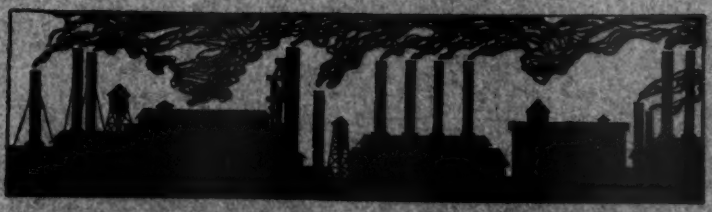

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OF THE

Society for the Promotion of Engineering Education

Published under the supervision of the Publication Committee:

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Address all communications to the Editor, University of Pittsburgh, Pittsburgh, Pa.

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    Study of the first course in Physics.

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ADAMS, CONRAD A., Instructor in Mechanic Arts, Tufts College, Tufts College, Mass. 1912

ADAMS, FRANK D., 243 Mountain St., Montreal, Canada 1909

ADAMS, F. J., Assistant Professor of Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1912

ADAMS, W. H., Professor of Mechanical Engineering, Throop College of Technology, Pasadena, Calif. 1908

ADAMSON, K. F., Assistant Professor of Mechanical Engineering, Case School of Applied Science, Cleveland, O. 1912

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AGG, T. R., Professor of Highway Engineering, Iowa State College, Ames, Ia. 1915

AIREY, JOHN, Professor of Engineering Mechanics; Acting Supt. Engineering Shops, University of Michigan, Ann Arbor, Mich. 1920

AKELEY, L. E., Dean of the College of Engineering and Professor of Physics, University of South Dakota, Vermilion, S. D. 1910

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ALLEN, C. F., 88 Montview St., West Roxbury, Mass. 1893

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ALLEN, C. M., Professor of Hydraulic Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1903

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ALLEN, FREDERICK G., Assistant Professor of Electrical Engineering, Lafayette College, Easton, Pa. 1919

ALLEN, F. G., Associate Professor of General Engineering Drawing University of Colorado, Boulder, Colo. 1913

ALLEN, J. R., Experimental Bureau, A. S. H. V. E., U. S. Bureau of Mines, Pittsburgh, Pa. 1907

ALLISON, W. F., Professor of Municipal and Highway Engineering, University of Washington, Seattle, Wash. 1915

ANDERSON, A. H., Associate Professor of Mechanical Engineering, Armour Institute of Technology, Chicago, Ill. 1910

ANDERSON, D. S., Professor of Electrical Engineering, Dean of the College of Technology, Tulane University, New Orleans, La... 1900

ANDERSON, F. PAUL, Dean of the College of Mechanical and Electrical Engineering, Professor of Mechanical Engineering and Director of the Experiment Engineering Laboratories, University of Kentucky, Lexington, Ky. 1894

ANDERSON, R. J., Instructor in Metallurgy, Missouri School of Mines, Rolla, Mo. 1915

ANDERSON, WILLIAM, Assistant Professor of Mechanical Engineering, Michigan College of Mines, Houghton, Mich. 1910

ANDREWS, W. H., Associate Professor of Education, Kansas State Agricultural College, Manhattan, Kans. 1912

ANDROS, S. O., Editor, *Oil News*, 910 So. Michigan Boulevard, Chicago, Ill. 1913

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ANTHONY, G. C., Professor of Technical Drawing and Dean of the Engineering School, Tufts College, Tufts College, Mass. 1896

APPLEBY, W. R., Dean of the Minnesota School of Mines and Professor of Metallurgy, University of Minnesota, Minneapolis, Minn. 1913

ARD, C. E., Consulting and Contracting Engineer, 402 American Trust Bldg., Birmingham, Ala. 1911

ARKLEY, L. M., Assistant Professor of Mechanical Engineering, University of Toronto, Toronto, Canada 1908

ARMSBY, HENRY H., Instructor in Civil Engineering, Missouri School of Mines and Metallurgy, Rolla, Mo. 1917

ARNETT, L. D., Librarian, West Virgina University, Morgantown, W. Va. 1915

ARNOLD, BION J., Consulting Electrical Engineer, 105 S. La Salle St., Chicago, Ill. 1906

ARCHIBALD, LEON, Instructor in Drawing and Descriptive Geometry, University of Minnesota, Minneapolis, Minn. 1919

ASHTON, C. H., Professor of Mathematics, University of Kansas, Lawrence, Kans. 1915
ATKINSON, F. W., President of the Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1905
ATKINSON, THOS. W., Dean of the College of Engineering, Louisiana State University, Baton Rouge, La. 1907
AUDE, H. T. R., Associate Professor of Mathematics, Carnegie Institute of Technology, Pittsburgh, Pa. 1910
AUSTIN, F. E., Professor of Electrical Engineering and Mechanics, Dartmouth College, Hanover, N. H. 1912
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AYDELOTTE, FRANK, Professor of English, Massachusetts Institute of Technology, Cambridge, Mass. 1915
AYER, A. W., Factory Manager, Midland Chemical Co., Chicago, Ill. 1894
AYER, FRED. E., Dean College of Engineering, and Professor of Civil Engineering, Municipal University of Akron, Akron, O... 1907
AYRES, FRANKLIN H., Professor of Physics, Junior College of Kansas City, Kansas City, Mo. 1918
BABBITT, ARTHUR B., Kent Manufacturing Co., Kent, O. 1912
BABCOCK, E. J., Dean of the College of Engineering, Professor of Industrial Chemistry, Mining and Metallurgy and Director of Experimental Engineering Stations, University of North Dakota, Grand Forks, N. D. 1907
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BAENDER, F. G., Professor of Heat Power Engineering, Supt., Mechanic Arts, State University of Arkansas, Fayetteville, Ark... 1917
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BAKER, RAY P., Professor of English, Renssalear Polytechnic Institute, Troy, N. Y. 1919
BALL, ALBERT, Professor of Physics, Cooper Union, New York, N. Y. 1908
BARBA, C. E., Supt. Mobile Shops, Watertown Arsenal, Watertown, Mass. 1915
BARK, ELMER, Power Engineer, The Barrett Co. (Chemical Dept.), Frankford, Pa. 1912
BARNARD, W. N., Professor of Power Engineering, Cornell University, Ithaca, N. Y. 1910

BARNES, A. F., Dean School of Engineering, New Mexico College of A. & M. Arts, State College, New Mex. 1914
BARNES, F. A., Professor of Railroad Engineering, Cornell University, Ithaca, N. Y. 1904
BARNEY, EDGAR S., Principal, Hebrew Technical Institute, 36 Stuyvesant St., New York, N. Y. 1912
BARNEY, S. E., Assistant Professor of Civil Engineering, Yale University, New Haven, Conn. 1894
BARRACLOUGH, S. H. E., Professor of Mechanical Engineering, University of Sydney, Sydney, Australia 1900
BARROWS, H. K., Associate Professor of Hydraulic Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1902
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BASS, FREDERIC, Professor of Municipal and Sanitary Engineering, University of Minnesota, Minneapolis, Minn. 1904
BATES, JOHN T., Associate Mechanical Engineer Division, Weights and Measures Bureau of Standards, Washington, D. C. 1912
BATES, ONWARD, Civil Engineer, 332 S. Michigan Ave., Chicago, Ill. 1903
BAUER, F. S., Associate Professor of Mechanical Engineering, University of Colorado, Boulder, Colo. 1914
BAUER, W. C., Professor of Electrical Engineering, Northwestern University, Evanston, Ill. 1910
BEACH, ROBIN, Professor of Electrical Engineering, Norwich University, Northfield, Vt. 1917
BEAVER, J. L., Assistant Professor of Electrical Engineering, Lehigh University, Bethlehem, Pa. 1914
BECKER, A. J., Professor of Applied Mathematics, University of North Dakota Grand Forks, N. D. 1907
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BEGGS, G. E., Assistant Professor of Civil Engineering, Princeton University, Princeton, N. J. 1915
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BENEDICT, H. G., 2269 Grandview Ave., Cleveland, O. 1913

BENEDICT, H. Y., Professor of Applied Mathematics and Dean of the College of Arts, University of Texas, Austin, Texas. 1906

BENJAMIN, C. H., Dean of the Schools of Engineering and Director, Engineering Experiment Station, Purdue University, La-Fayette, Ind. 1893

BENKERT, H. N., Professor of Civil Engineering, Drexel Institute, Philadelphia, Pa. 1909

BENNETT, EDW., Professor of Electrical Engineering, University of Wisconsin, Madison, Wis. 1909

BENTON, J. R., Professor of Physics and Electrical Engineering, and Dean of the College of Engineering, University of Florida, Gainesville, Fla. 1905

BENZENBERG, G. H., Consulting Civil Engineer, Retired, 255 Greenbush St., Milwaukee, Wis. 1907

BERARD, S. J., Instructor in Machine Design, Yale University, New Haven, Conn. 1912

BERENTS, H., Consulting Civil Engineer, 13 Nanking Road, Shanghai, China 1911

BERG, E. J., Professor of Electrical Engineering, Union University, Schenectady, N. Y. 1910

BERGER, F. A., Assistant Professor of Mechanical Engineering, Washington University, St. Louis, Mo. 1910

BERRESFORD, A. W., Vice-President and General Manager, The Cutler-Hammer Mfg. Co., Milwaukee, Wis. 1911

BERRY, H. C., Professor of Materials of Construction, University of Pennslyvania, Philadelphia, Pa. 1916

BERRY, W. J., Associate Professor of Mathematics, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1910

BETTS, PHILANDER, Chief Engineer, Public Utility Commission of New Jersey, Newark, N. J. 1907

BEVAN, W. A., Assistant Professor of Physics, Oregon Agricultural College, Corvallis, Ore. 1915

BEYER, O. S., JR., Director, Research Bureau, Plucob Place League, Washington, D. C. 1918

BEYER, S. W., Dean of the Division of Industrial Science and Professor of Geology, Iowa State College, Ames, Ia. 1899

BIKLE, J. S., Instructor in Mathematics, Bradley Polytechnic Institute, Peoria, Ill. 1918

BILLINGS, JOHN H., Professor of Mechanical Engineering, Drexel Institute, Philadelphia, Pa. 1919

BILLMYER, CARROLL D., Designer, Atlas Portland Cement Company, Northampton, Pa. 1917

BIRD, H. C., Professor of Civil Engineering, Pennsylvania Military College, Chester, Pa. 1914

BIRD, R. M., Professor of Chemistry, University of Virginia, University, Va. 1915

BIRD, WM. W., Professor of Mechanical Engineering, and Director of the Washburn Shops, Worcester Polytechnic Institute, Worcester, Mass. 1910

BIRK, WILLIAM O., Assistant Professor of English, University of Colorado, Boulder, Colo. 1920

BISHOP, C. T., Assistant Professor of Structural Engineering, Yale University, New Haven, Conn. 1912

BISHOP, F. L., Dean School of Engineering, Professor of Physics, University of Pittsbrugh, Pittsburgh, Pa. 1907

BISSELL, G. W., Dean of Engineering, Michigan Agricultural College, East Lansing, Mich. 1894

BITTING, H. S., President of the Williamson Free School of Mechanical Trades, Williamson School, Delaware Co., Pa. 1909

BLACK, R. M., Associate Professor of Mining, University of Pittsburgh, Pittsburgh, Pa. 1912

BLAKE, FREDERIC C., Professor of Physics, The Ohio State University, Columbus, O. 1918

BLAKESLEE, D. W., Electrical Engineer, Jones & Laughlin Steel Co., 27th & Carson Sts., Pittsburgh, Pa. 1914

BLALOCK, GROVER C., Instructor in Electrical Engineering, Purdue University, LaFayette, Ind. 1918

BLANCHARD, A. H., Professor of Highway Engineering, University of Michigan, Ann Arbor, Mich. 1902

BLAND, J. C., Engineer of Bridges, Pennsylvania Lines West of Pittsburgh, Room 520, Penna. Station, Pittsburgh, Pa. 1911

BLESSING, G. F., Professor of Mechanical Engineering, in charge of Engineering, Swarthmore College, Swarthmore, Pa. 1910

BLISS, COLLINS P., Professor of Mechanical Engineering, New York University, University Heights, New York City 1915

BLUME, L. F., Electrical Engineer, General Electric Co., Pittsfield, Mass. 1911

BOARDMAN, H. P., Professor of Civil Engineering, University of Nevada, Reno, Nev. 1914

BOARDMAN, H. S., Dean of the College of Technology and Professor of Civil Engineering, University of Maine, Orono, Me. 1903

BOERCHEL, W. H., Instructor in Mathematics, Georgia School of Technology, Atlanta, Ga. 1919

BOGARD, FRANK, Supt. Mechanical and Electrical Engineering Courses, Louisiana Industrial Institute, Ruston, La. 1914

BOGGS, GILBERT H., Associate Professor of Chemistry, Georgia School of Technology, Atlanta, Ga. 1919

BOLTON, F. C., Professor of Electrical Engineering, A. and M. College at Texas, College Station, Texas 1910
BOOMSLITER, G. P., Professor of Mechanics, West Virginia University, Morgantown, W. Va. 1912
BOOTHROYD, S. L., Associate Professor of Astronomy, University of Washington, Seattle, Wash. 1908
BOREMAN, R. W., Assistant Professor of Physics, Georgia School of Technology, Atlanta, Ga. 1919
BOWERMAN, M. R., Checker, Alliance Machine Co., Alliance, O. 1909
BOYD, ALFRED, Dean, School of Engineering and Professor of Civil Engineering, Oklahoma A. & M. College, Stillwater, Okla. 1909
BOYD, J. E., Professor of Mechanics, The Ohio State University, Columbus, O. 1907
BOYER, F. Q., National Industrial Conference Board, 724 Southern Building, Washington, D. C. 1912
BOYLE, A. C., JR., Professor of Mining Engineering and Economic Geology, University of Wyoming, Laramie, Wyo. 1911
BOZELL, H. V., Assistant Professor of Electrical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn. 1912
BRACKETT, B. B., Professor of Electrical Engineering, South Dakota State College of A. and M. Arts, Brookings, S. D. 1906
BRADFORD, J. N., Professor of Architecture and University Architect, The Ohio State University, Columbus, O. 1896
BRANCH, T. P., Professor of Civil Engineering, Georgia School of Technology, Atlanta, Ga. 1919
BRANDES, FRED C., Instructor in Drawing and Civil Engineering, Catholic University of America, Washington, D. C. 1920
BRASEFIELD, S. E., Professor of Applied Mathematics, Rutgers College, New Brunswick, N. J. 1916
BRACKETT, ELMER E., Professor of Agricultural Engineering, University of Nebraska, Lincoln, Neb. 1920
BRAUNE, G. M., Assistant Professor of Civil Engineering, University of Cincinnati, Cincinnati, Ohio 1914
BRAY, H. C. C., Instructor to the Apprentices, Nova Scotia Steel and Coal Co., Ltd., New Glasgow, Nova Scotia, Canada 1916
BRECKENRIDGE, L. P., Professor of Mechanical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn. 1893
BREED, C. B., Professor of Railroad Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1904
BRINGHURST, J. H., Professor of Engineering Design and Dean of the Faculty, Drexel Institute, Philadelphia, Pa. 1915
BRODIE, HUGH, Assistant Professor of Surveying, University of Michigan, Ann Arbor, Mich. 1915

BROOKE, W. E., Head of Department of Mathematics and Mechanics, College of Engineering, University of Minnesota, Minneapolis, Minn. 1902

BROOKS, J. ANSEL, Associate Professor of Mechanics and Mechanical Drawing, Brown University, Providence, R. I. 1904

BROOKS, J. P., President, Clarkson College of Technology, Potsdam, N. Y. 1898

BROOKS, MORGAN, Professor of Electrical Engineering, University of Illinois, Urbana, Ill. 1899

BROWN, A. I., Assistant Professor of Steam Engineering, The Ohio State University, Columbus, O. 1914

BROWN, CARROLL G., Professor of Electrical Engineering, School of Engineering of Milwaukee, Milwaukee, Wis. 1914

BROWN, CHAS. B., Professor of Civil Engineering, University of Maine, Orono, Me. 1912

BROWN, F. L., Associate Professor of Mechanics, University of Kansas, Lawrence, Kans. 1915

BROWN, H. W., Electrical Engineer, General Electric Co., Schenectady, N. Y. 1916

BROWN, J. M., Professor of Civil Engineering, University of South Dakota, Vermillion, S. D. 1916

BROWN, R. A., Assistant Professor of Electrical Engineering, The Ohio State University, Columbus, O. 1917

BROWN, S. L., Associate Professor of Physics, University of Texas, Austin, Tex. 1914

BROWNE, EDWARD T., 27 N. Hall, University of Chicago, Chicago, Ill. 1915

BROWNE, WM. HAND, JR., Professor of Electrical Engineering, North Carolina College of A. and M. Arts, West Raleigh, N. C. 1899

BRYANS, W. R., Associate Professor of Mechanics and Machine Design, New York University, New York, N. Y. 1908

BRYANT, J. M., Professor of Electrical Engineering, University of Texas, Austin, Tex. 1910

BRYDONE-JACK, E. E., Superintending Engineer, Public Works of Canada, Winnipeg, Man. 1902

BUCHER, PAUL, Instructor in Mechanical Engineering, The Ohio State University, Columbus, O. 1920

BUCK, A. M., Consulting Engineer with J. A. Beeler, 52 Vanderbilt Ave., New York, N. Y. 1910

BULGER, JOHN W., Instructor in Mathematics and Engineering, Municipal University of Akron, Akron, Ohio 1918

BULLOCK, W. E., Assistant Secretary, American Society of Mechanical Engineers, New York, N. Y. 1917

BUMP, M. R., Chief Engineer, Henry L. Doherty & Co., 60 Wall St., New York, N. Y. 1907

BURBANK, COLBY L., Instructor in Civil Engineering, Tufts College, Tufts College, Mass. 1919

BURGER, W. H., Professor of Civil Engineering, Northwestern University, Evanston, Ill. 1910

BURNSIDE, C. H., Associate Professor of Mechanics, Columbia University, New York, N. Y. 1910

BURPEE, F. E., Professor of Mechanical Engineering, Bucknell University, Lewisburg, Pa. 1910

BURR, W. H., Emeritus Professor of Civil Engineering, Columbia University, Consulting Engineer, 120 Broadway, New York, N. Y. 1893

BURSLEY, J. A., Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1910

BURT, H. J., Structural Engineer, Holabird & Roche, Architects, 1027 Elmwood Ave., Wilmette, Ill. 1910

BURTON, A. E., Professor of Topographical Engineering, in charge of Department of Drawing, and Dean of the Massachusetts Institute of Technology, Cambridge, Mass. 1904

BUSH, VANNEVAR, Massachusetts Institute of Technology, Cambridge, Mass. 1917

BUTLER, G. M., Dean, College of Mines and Engineering, University of Arizona, Tucson, Ariz. 1916

BUTTERFIELD, A. D., Professor of Mathematics and Geodesy, Worcester, Mass. 1908

BUTTERFIELD, THOMAS E., Associate Professor of Mechanical Engineering, Lehigh University, Bethlehem, Pa. 1920

CALDERWOOD, JAS. P., Professor of Mechanical Engineering, charge Dept. of Steam and Gas Engineering, Kansas State Agricultural College, Manhattan, Kans. 1910

CALDWELL, EDWARD, Treasurer of the McGraw-Hill Book Co., Inc., 239 W. 39th St., New York, N. Y. 1905

CALDWELL, F. C., Professor of Electrical Engineering, The Ohio State University, Columbus, O. 1897

CALDWELL, H. H., Registrar, Georgia School of Technology, Atlanta, Ga. 1919

CALLAN, J. A. C., Professor of Civil Engineering, Head of Dept. of Civil Engineering, Alabama Polytechnic Institute; Supt., Water Works of Auburn and State Highway Commission, Auburn, Ala. 1909

CALLAN, JOHN G., Eastern Mfg. Co., Bangor, Me. 1917

CALNAN, J. W., Instructor in charge of Department of Chemistry, Franklin Union, Boston, Mass. 1910

CAMPAMOR, J. A., Instructor in Modern Languages, Georgia School of Technology, Atlanta, Ga. 1919

CAMPBELL, MALCOLM M., Supervising Engineer, P. O. Box 385, Montreal, Que., Canada 1919

CAMPBELL, T. P., Dean, General Faculty, Virginia Polytechnic Institute, Blacksburg, Va. 1917

CANFIELD, LLOYD A., Member of Firm, The Canfield Engineering Co., Structural Engineers, 406 Flynn Bldg., Des Moines, Ia.... 1919

CANNON, J. F., Professor of Industrial Education, Georgia School of Technology, Atlanta, Ga. 1919

CANNON, J. H., Associate Professor of Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1915

CAPEN, S. P., Director, American Council on Education, 818 Connecticut Ave., N. W., Washington, D. C. 1917

CARLSON, W. W., Professor of Shop Practice and Superintendent of Shops, Kansas State Agricultural College, Manhattan, Kans. 1912

CARPENTER, D. E., Dean of the Faculty, International Correspondence School, Scranton, Pa. 1919

CARPENTER, H. D., 10759 Prospect Ave., Chicago, Ill. 1910

CARPENTER, HUBERT V., Professor of Mechanical and Electrical Engineering, Dean, College of Mechanic Arts and Engineering, State College of Washington, Pullman, Wash. 1917

CARPENTER, L. G., Consulting Engineer, 707 First National Bank Bldg., Denver, Colo. 1895

CARPENTER, RANDLE C., Professor of Mechanical Engineering, Mississippi A. & M. College, Agricultural College, Miss. 1914

CARREL, W. J., Professor of Structural Engineering, University of Kentucky, Lexington, Ky. 1917

CARROLL, H. H., Assistant Professor Technical Drawing, Tufts College, Tufts College, Mass. 1911

CARSON, W. W., Emeritus Professor of Civil Engineering, University of Tennessee, Knoxville, Tenn. 1894

CARTY, J. J., Vice-President, American Telephone and Telegraph Co., 195 Broadway, New York, N. Y. 1907

CASE, G. W., Professor of Sanitary Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

CATLIN, W. G., Electrical Engineer, Shepard Electric Crane & Hoist Co., Montour Falls, N. Y. 1912

CAUGHEY, R. A., Associate Professor of Structural Engineering, Iowa State College, Ames, Iowa 1911

CHANDLER, E. F., Professor of Civil Engineering, and in charge of Civil Engineering Course, University of North Dakota, University, N. D. 1907

CHANEY, GEO. A., Associate Professor of Mathematics, Iowa State College, Ames, Ia. 1914

CHAPMAN, L. B., Engineer, Electric Boat Company, New London, Conn. 1917

CHARAVAY, M. A., Assistant Professor of Mechanical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1914

CHARLES, ROLLIN L., Associate Professor of Physics, Lehigh University, Bethlehem, Pa. 1914

CHASE, C. H., Professor of Steam Engineering, Tufts College, Tufts College, Mass. 1900

CHASE, LEON W., Professor of Agricultural Engineering, University of Nebraska, Lincoln, Nebr. 1910

CHATBURN, G. R., Professor and Chairman of the Department of Applied Mechanics and Machine Design, University of Nebraska, Lincoln, Nebr. 1899

CHEDSEY, W. R., Assistant Professor of Mining, Colorado School of Mines, Golden, Colo. 1915

CHESNEY, C. C., Manager and Chief Engineer, General Electric Co., Pittsfield, Mass. 1911

CHILES, GEORGE S., Mechanical Engineer, American Steel Foundries, Chicago, Ill. 1919

CHRISTENSEN, GEO. L., Professor of Mechanical Engineering, Michigan College of Mines, Houghton, Mich. 1905

CHURCH, EDWIN F., JR., Professor of Mechanical Engineering, The Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1910

CHURCH, I. P., Emeritus Professor of Applied Mechanics and Hydraulics, Cornell University, Ithaca, N. Y. 1910

CLAPP, W. H., Professor of Mechanism and Machine Design, Throop College of Technology, Pasadena, Calif. 1914

CLARK, J. C., Assistant Professor of Electrical Engineering, Leland Stanford, Jr. University, Stanford University, Calif. 1912

CLARKSON, R. P., Consulting Engineer, General Manager, Safety Service Corporation, 29 Broadway, New York, N. Y. 1915

CLEGHORN, M. P., Associate Professor of Mechanical Engineering, Iowa State College, Ames, Ia. 1910

CLIFFORD, H. E., Gordon McKay Professor of Electrical Engineering, Harvard University, Cambridge, Mass. 1907

CLIFTON, H. T., Teacher in Physics and Geology, and Registrar, Pasadena High School, Pasadena, Calif. 1907

CLOKE, PAUL, Professor of Electrical Engineering, Universtiy of Arizona, Tucson, Ariz. 1919

CLOYD, EDWARD L., Instructor in Drawing and Descriptive Geometry, North Carolina State College of A. & E., West Raleigh, N. C. 1920

COAHRAN, J. M., Professor of Electrical Engineering, University of New Mexico, Albuquerque, N. M. 1916
COATES, ARTHUR B., Bureau of Mines, Bruceton, Pa. 1918
COBB, COLLIER, Professor and Head of the Department of Geology and Mineralogy, University of North Carolina, Chapel Hill, N. C. 1916
COBB, H. E., Professor and Head of Department of Mathematics, Lewis Institute, Chicago, Ill. 1908
CODDINGTON, E. F., Acting Dean, College of Engineering, Professor of Mechanics, The Ohio State University, Columbus, O. 1911
CODWISE, HENRY R., Assistant Professor of Civil Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1914
COFFIN, C. A., Chairman, Board of Directors, General Electric Co., 120 Broadway, New York, N. Y. 1911
COLE, ALFRED D., Professor of Physics, Head of Department, The Ohio State University, Columbus, O. 1918
COLER, CARL S., Manager, Educational Department, Westinghouse E. & M. Co., East Pittsburgh, Pa. 1919
COLLYER, NORMAN, National Industrial Conference Board, 15 Beacon Street, Boston, Mass. 1919
COMSTOCK, C. E., Professor of Mathematics, Bradley Polytechnic Institute, Peoria, Ill. 1909
COMSTOCK, E. H., Professor of Mine Plant and Mechanics, School of Mines, University of Minnesota, Minneapolis, Minn. 1907
COMSTOCK, F. M., Professor of Descriptive Geometry, Case School of Applied Science, Cleveland, O. 1907
CONKLING, L. D., Professor of Civil Engineering, Montana State A. & M. College, Bozeman, Mont. 1912
CONNER, S. L., 528 Hight Street, Germantown, Philadelphia, Pa... 1912
CONRAD, L. E., Professor of Civil Engineering, Kansas State Agricultural College, Manhattan, Kans. 1908
CONSOLIVER EARL L., Director, Department of Automotive Electrotechnics, School of Engineering of Milwaukee, Milwaukee, Wis. 1918
CONSTANT, F. H., Professor of Civil Engineering, Princeton University, Princeton, N. J. 1896
COOK, A. L., Head of the Dept. of Industrial Electrical Engineering, Pratt Institute, Brooklyn, N. Y. 1913
COOKE, M. L., Consulting Engineer in Management, 1109 Finance Bldg., Philadelphia, Pa. 1910
COOLEY, M. E., Professor of Mechanical Engineering and Dean of the Colleges of Engineering and Architecture, University of Michigan, Ann Arbor, Mich. 1893

COOPER, F. L., Instructor in Physics, Yale University, New Haven, Conn. 1912
COPPERSMITH, C. W., Assistant Professor of Machine Design, Case School of Applied Science, Cleveland, O. 1915
CORBETT, L. J., University of California, Berkeley, Calif. 1912
CORBIN, C. E., Professor of Engineering and Applied Mathematics, College of the Pacific, San Jose, Calif. 1917
CORNELL, W. R., Instructor in Applied Mechanics, Cornell University, Ithaca, N. Y. 1910
CORP, C. I., Associate Professor of Hydraulic Engineering, University of Wisconsin, Madison, Wis. 1910
CORY, C. L., Dean, College of Mechanics and Professor of Electrical Engineering, University of California, Berkeley, Calif. 1915
COSTER, E. L., Literary Engineer, 25 Broad St., Room 1440, New York, N. Y. (Life Member) 1911
COVELL, G. A., Dean of the School of Engineering and Mechanic Arts, Oregon Agricultural College, Corvallis, Ore. 1908
COX, GUY H., Professor of Geology and Mineralogy, Missouri School of Mines and Metallurgy, Rolla, Mo. 1919
COX, J. J., Engineer-Manager for Board of County Road Commissioners, Washtenaw County, Ann Arbor, Mich. 1915
CRAIN, L. D., Professor of Mechanical Engineering, Head of Department, Colorado Agricultural College, Ft. Collins, Colo..... 1918
CRANDELL, JOHN S., Consulting Engineer, The Barrett Co., 17 Battery Place, New York, N. Y. 1912
CRANE, RUFUS, 21 Woodlawn Ave., Delaware, Ohio 1918
CRAWFORD, D. F., Director of Railway Mechanical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
CRAWFORD, I. C., Associate Professor of Civil Engineering, University of Colorado, Boulder, Colo. 1913
CREAGMILE, WM. B., James G. Biddle, Scientific Instruments, 1211 Arch St., Philadelphia, Pa. 1909
CREIGHTON, E. E. F., Consulting Engineer, General Electric Co., Schenectady, N. Y. 1910
CREIGHTON, W. H. P., Professor of Mechanical and Sugar Engineering, Tulane University, New Orleans, La. 1893
CROCKETT, CHAS. W., Professor of Mathematics and Astronomy, Rensselaer Polytechnic Institute, Troy, N. Y. 1912
CROFOOT, GEORGE E., Assistant Professor of Mechanical Engineering University of Pennsylvania, Philadelphia, Pa. 1919
CROSBY, W. W., Consulting Engineer, Baltimore, Md. 1911
CROSS, HARDY, Assistant Professor of Civil Engineering, Brown University, Providence, R. I. 1912

CROSSMAN, RALPH S., Assistant Professor of Civil Engineering, Clemson Agricultural College, Clemson College, S. C. 1919

CROUCH, C. H., Acting Dean of Engineering, Professor of Mechanical Engineering, New Hampshire College, Durham, N. H. 1907

CRUM, R. W., Engineer of Materials and Tests, Iowa State Highway Commission, Ames, Ia. 1912

CULLIMORE, ALLEN R., Director, Newark Technical School, Newark, Del. 1914

CUMMINGS, HAROLD N., Associate Professor of Civil Engineering and Mathematics, Delaware College, Newark, Del. 1918

CURTIS, L. F., Assistant Professor of Electrical Engineering, University of Washington, Seattle, Wash. 1913

DADOURIAN, H. M., Instructor in Physics, Yale University, New Haven, Conn 1913

DAGGETT, P. H., Professor of Electrical Engineering, University of North Carolina, Chapel Hill, N. C. 1910

DAKE, CHARLES LAWRENCE, Associate Professor of Geology, Missouri School of Mines and Metallurgy, Rolla, Mo. 1919

DALBURG, F. A., Superintendent, Arctic Coal Co., Advent Bay, Spitsburgen, Pa. 1908

DAMON, GEORGE A., Consulting Engineer, 832 San Fernando Bldg., Los Angeles 1911

DANFORTH, R. H., Professor of Mechanics and Hydraulics in charge of Materials Testing Laboratories, Case School of Applied Science, Cleveland, O. 1914

DANIEL, J. L., Associate Professor of Chemistry, Georgia School of Technology, Atlanta, Ga. 1919

DANIELS, JOSEPH, Associate Professor of Mining Engineering and Metallurgy, University of Washington, Seattle, Wash. 1910

DARGAN, F. T., Professor of Electrical Engineering, Clemson A. & M. College of South Carolina, Clemson College, S. C. 1912

DATES, H. B., Professor of Electrical Engineering, Case School of Applied Science, Cleveland, O. 1904

DAUGHERTY, ROBERT L., Professor of Mechanical and Hydraulic Engineering, Throop College of Technology, Pasadena, Calif... 1919

DAVIDSON, J. B., Professor of Agricultural Engineering, The Iowa State College, Ames, Iowa 1915

DAVIDSON, M. W., Professor of Mechanical Engineering, University of South Dakota, Vermillion, S. D. 1917

DAVIDSON, WARD F., Instructor in Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1920

DAVIS, E. S., Instructor in Shop Practice, University of Oklahoma, Norman, Okla. 1917

DAVIS, GEO. JACOB, JR., Dean and Professor of Civil Engineering, University of Alabama, University, Ala. 1913
DAVIS, JAS. C., Assistant Professor of Mechanical Drawing, Worcester Polytechnic Institute, Worcester, Mass. 1909
DAVIS, JOHN C., Dean of the College of Applied Science and Engineering, Marquette University, Milwaukee, Wis. 1908
DAVIS, R. E., 195 Rochester St., Westbrooke, Maine..... 1913
DAVIS, R. P., Professor of Structural and Hydraulic Engineering, West Virginia University, Morgantown, W. Va. 1912
DAWES, C. L., Instructor in Electrical Engineering, Harvard University and Massachusetts Institute of Technology, Cambridge, Mass. 1915
DAY, CHARLES, President, Day & Zimmerman, Inc., Engineers, 611 Chestnut St., Philadelphia, Pa. 1911
DEARBORN, C. S., Mechanical Engineer, Blythe, Calif. 1910
DEARBORN, R. H., Head, Dept. of Electrical Engineering, Oregon Agricultural College, Corvallis, Ore. 1917
DE BAUFRE, WM. L., Professor of Mechanical Engineering and chairman of Dept., University of Nebraska, Lincoln, Neb. 1920
DEFOE, L. M., Professor of Mechanics, University of Missouri, Columbia, Mo. 1904
DELAY, FREDERIC A., Supt. Electrical Depts., Mechanical Appliance Co., 133 Stewart St., Milwaukee, Wis. 1909
DEMOREST, D. J., Professor of Metallurgy, The Ohio State University, Columbus, O. 1913
DENNY, GEO. H., President, University of Alabama, University, Ala. 1913
DENT, J. A., Associate Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1911
DENTON, F. W., 12 Reservoir St., Cambridge, Mass. 1894
DEPUY, C. E., Professor of Mechanical Engineering, Lewis Institute, Chicago, Ill. 1908
DERLETH, CHAS., JR., Professor of Civil Engineering and Dean of the College of Civil Engineering, University of California, Berkeley, Calif. 1904
DESCHWEINITZ, P. B., Professor of Machine Design, Lehigh University, Bethlehem, Pa. 1912
DETURK, J. A., 1st Lieutenant Ordnance Dept., U. S. A., 615 Quebec St., N. W., Washington, D. C. 1915
DIBERT, H. M., Civil Engineer with W. & L. E. Gurley, Troy, N. Y.. 1913
DICKERSON, H. S., Head, Mechanical Engineering Dept., The Government Institute of Technology, Shanghai, China, after June, 1920 1912

DICKINSON, L. P., Professor of Physics and Electrical Engineering, Rhode Island State College, Kingston, R. I. 1914
DICKS, N. J., Doherty Training School, Toledo, O. 1918
DIEDERICHS, HERMAN, Professor of Experimental Engineering, Cornell University, Ithaca, N. Y. 1915
DIEMER, HUGO, Personnel Supt., Winchester R. A. Co., New Haven, Conn. 1902
DIETZ, J. W., Educational Director, Western Electric Co. Inc., 195 Broadway, New York, N. Y. 1911
DIX, L. E., Professor of Hydraulic and Sanitary Engineering, Norwich University, Northfield, Vt. 1917
DIX, THURMAN W., Assistant Professor of Civil Engineering, University of Vermont, Burlington, Vt. 1919
DOBBS, F. E., Instructor in Estimating and Practical Mathematics, Wentworth Institute, Boston, Mass. 1912
DODGE, H. L., Professor of Physics, University of Oklahoma, Norman, Okla. 1919
DOGGETT, L. A., Professor of Electrical Engineering, U. S. Naval Academy, Annapolis, Md. 1914
DOHERTY, H. L., President, Cities Service Company, 60 Wall St., New York, N. Y. 1904
DOMONOSKE, ARTHUR B., University of California, Berkeley, Calif. 1913
DOOLEY, C. R., Manager, Personnel and Training, Standard Oil Co. (N. J.), 26 Broadway, New York, N. Y. 1907
DORROH, J. H., Dean, School of Engineering, Professor of Civil Engineering, University of Mississippi, University, Miss. 1917
DORSEY, J. W., Assistant Professor of Electrical Engineering, University of Manitoba, Winnipeg, Man. 1909
DOUGHERTY, H. R., Professor and Head of Department of Mathematics, New York Military Academy, Cornwall-on-Hudson, N. Y. 1915
DOUGHERTY, N. W., Professor of Civil Engineering, University of Tennessee, Knoxville, Tenn. 1914
DOUGLAS, J. F. H., Assistant Professor of Physics, Texas, A. & M. College, College Station, Tex. 1910
DOWELL, DAWSON, Assistant Professor of Mechanical Engineering, Drexel Institute, Philadelphia, Pa. 1917
DRAFFIN, JASPER O., Instructor in Mechanics, University of Illinois, Urbana, Ill. 1917
DRANE, WALTER H., Chief Engineer, Smith County Highway Commissioner, Smith Co., Lebanon, Tenn. 1919
DREYER, C. F., Head of the Department of Mechanical Engineering, Escola de Engenharia, Porto Alegre, Brazil 1913

DRINKER, H. S., President, Lehigh University, Bethlehem, Pa. 1905
DROWNE, H. B., Engineer, Lane Construction Corporation, Meriden, Conn. 1908
DUCEY, EDW. J., With Fort Pitt Bridge Works, Canonsburg, Pa. .. 1915
DUCKERING, W. E., Professor of Engineering Problems, The Iowa State College, Ames, Iowa 1917
DUFF, C. M., Assistant Professor of Engineering Drawing, University of Nebraska, Lincoln, Nebr. 1912
DUFFEY, C. F., Professor of Electrical Engineering, University of Porto Rico, Box 143, Mayaguez, P. R. 1916
DUFOUR, F. O., Structural Engineer, Stone & Webster, 147 Milk St., Boston, Mass. 1906
DUKES, R. G., Professor of Applied Mechanics, Purdue University, LaFayette, Ind. 1907
DUNCAN, M. M., Vice-President and General Manager, Cleveland Cliffs Iron Co., and Member Board of Control, Michigan College of Mines, Ishpeming, Mich. 1905
DUNHAM, HEBER, Assistant Professor of Engineering Drawing, New York University, New York, N. Y. 1914
DUNKEL, OTTO, Associate Professor of Mathematics, Washington University, St. Louis, Mo. 1919
DUNLAP, J. H., Associate Professor of Hydraulics and Sanitary Engineering, State University of Iowa, Iowa City, Ia. 1916
DUNMORE, G. B., Professor of Drafting, Whitman College, Walla Walla, Wash. 1911
DUNN, GANO, President, J. G. White Engineering Corporation, 43 Exchange Place, New York, N. Y. 1911
DUNN, HAROLD, Research Associate in Railway Engineering, Engineering Experiment Station, University of Illinois, Urbana, Ill. 1917
DUPONT, T. C., Wilmington, Del. (Life Member) 1910
DUPRIEST, JOHN R., Professor of Steam and Gas Engine Design, Rensselaer Polytechnic Institute, Troy, N. Y. 1919
DURAND, W. F., Professor of Mechanical Engineering, Leland Stanford Junior University, Stanford University, Calif. 1899
DURST, ROSS C., Instructor in Civil Engineering, Municipal University of Akron, Akron, O. 1918
DUVALL, W. CLINTON, Associate Professor of Electrical Engineering, University of Colorado, Boulder, Colo. 1919
DWIGHT, H. B., Electrical Engineer, Colo. P. M. Commission, Capitol Bldg., Denver, Colo. 1912
DYCHE, H. E., Professor and Head of Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
DYER, F. C., Lecturer in Mining Engineering, Faculty of Applied Science, University of Toronto, Toronto, Ont., Canada 1913

DYSART, P. M., Physics Dept., Schenley High School, Pittsburgh, Pa. 1911

EARLE, S. B., Director of the Engineering Department, and Professor of Mechanical Engineering, Clemson Agricultural College of South Carolina, Clemson College, S. C. 1912

EASBY, WM., JR., Consulting Engineer, 1302–03 Commonwealth Bldg., Philadelphia, Pa. 1908

EATON, J. S., Instructor in Mechanical Practice, University of Vermont, Burlington, Vt. 1914

EBAUGH, W. C., Professor of Chemistry, Denison University, Granville, Ohio 1908

ECKEL, C. L., Assistant Professor of Civil Engineering, University of Pennsylvania, Philadelphia, Pa. 1914

ECKHARD, G. F., Professor of Structural Engineering, University of Vermont, Burlington, Vt. 1910

EDDY, C. L., Assistant Professor of Railway Engineering, Case School of Applied Science, Cleveland, O. 1910

EDDY, H. T., Dean of the Graduate School and Professor of Mathematics and Mechanics, Emeritus, College of Engineering, University of Minnesota, Minneapolis, Minn. 1892

EDGAR, R. F., Instructor in Graphics, University of Pittsburgh, Pittsburgh, Pa. 1920

EDGECOMB, R. E., Chief Engineer City Bldg. Dept., Omaha, Neb. .. 1912

EDMANDS, S. S., Director, School of Science and Technology, Pratt Institute, Brooklyn, N. Y. 1903

EDMONDSON, T. W., Professor of Mathematics, New York University, University Heights, New York, N. Y. 1917

EHLERS, H. E., Assistant Chief, Bureau of Engineering, Public Service Commission, Harrisburg, Pa. 1912

ELDRED, C. P., Professor of Electrical Engineering, Head of Dept., Georgia School of Technology, Atlanta, Ga. 1918

ELLIOTT, B. G., Professor of Mechanical Engineering, University of Wisconsin, Madison, Wis. 1912

ELLIOTT, D. S., Associate Professor of Physics, Georgia School of Technology, Atlanta, Ga. 1919

ELLIS, C. A., Professor of Structural Engineering, University of Illinois, Urbana, Ill. 1916

ELLIS, FREDERICK, Instructor in Wood Working, Technical High School, Edmonton, Alberta, Canada 1912

ELLIS, W. T., Associate Professor of Machine Design and Applied Mechanics, North Carolina College of A. and M. Arts, West Raleigh, N. C. 1910

ELY, JOHN A., Professor of Mathematics, St. Johns University, Shanghai, China 1914

EMERSON, WALTER D., Instructor in Mechanical Engineering, University of Maine, Orono, Me. 1920

EMERSON, WM. H., Dean and Professor of Chemistry, Georgia School of Technology, Atlanta, Ga. 1912

EMRICK, PAUL S., Instructor in Electrical Engineering, Purdue University, LaFayette, Ind. 1914

EMSWILER, J. E., Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1919

ENDSLEY, L. E., Professor of Railway Mechanical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1907

ENGEL, GODFREY, Chief Engineer of Sugar Machinery Dept., Buffalo Foundry & Machine Co., 17 Battery Place, New York, N. Y... 1915

ENGER, M. L., Professor of Mechanics and Hydraulics, University of Illinois, Urbana, Ill. 1907

ENNIS, W. D., Professor of Marine Engineering, Post Graduate Department U. S. Naval Academy, Annapolis, Md. 1907

ENO, F. H., Professor of Municipal Engineering, The Ohio State University, Columbus, O. 1907

ENSIGN, N. E., Associate in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1915

ESTY, WILLIAM, Professor of Electrical Engineering, Lehigh University, Bethlehem, Pa. 1898

EVANS, F. H., Dean, College of Industrial Science, Toledo University, Toledo, O. 1907

EVANS, H. B., Professor of Mathematics, University of Pennsylvania, Philadelphia, Pa. 1908

EVANS, H. S., Dean, College of Engineering, Professor of Electrical Engineering, University of Colorado, Boulder, Colo. 1905

EWING, D. D., Associate Professor of Electrical Railway Engineering, Purdue University, LaFayette, Ind. 1910

EYRE, T. T., Assistant Professor of Mechanical Engineering, Purdue University, LaFayette, Ind. 1909

FAIG, J. T., President, Ohio Mechanics Institute, Cincinnati, O..... 1899

FARNHAM, C. S., Assistant Professor of Civil Engineering, Yale University, New Haven, Conn. 1908

FARNHAM, WALTER E., Instructor in General Engineering Drawing, University of Illinois, Urbana, Ill. 1919

FELGAR, JAS. H., Dean of the College of Engineering, University of Oklahoma, Norman, Okla. 1912

FENTON, HENRY H., Assistant Professor of Electrical Engineering, Kansas State Agricultural College, Manhattan, Kans. 1919

FERGUSON, O. J., Professor of Electrical Engineering, University of Nebraska, Lincoln, Nabr. 1908

FERMIER, E. J., Professor of Mechanical Engineering, Texas A. and M. College, College Station, Texas 1903

FERNALD, R. H., Whitney Professor of Dynamical Engineering, University of Pennsylvania, Philadelphia, Pa. 1899

FERRIS, CHARLES E., Professor of Mechanical Engineering and Dean of Engineering, University of Tennessee, Knoxville, Tenn. 1913

FESSENDEN, E. A., Professor of Mechanical Engineering, The Pennsylvania State College, State College, Pa. 1912

FIELD, F., Professor of Mathematics, Georgia School of Technology, Atlanta, Ga. 1919

FINCH, F. R., Assistant Professor of Descriptive Geometry and Drawing, University of Michigan, Ann Arbor, Mich. 1913

FINE, H. B., Professor of Mathematics and Dean of the Departments of Science, Princeton University, Princeton, N. J. 1909

FISH, E. H., New England Associate Editor, *American Machinist*, Worcester, Mass. 1912

FISH, F. A., Professor of Electrical Engineering, Iowa State College, Ames, Ia. 1905

FISH, J. C. L., Professor of Railroad Engineering, Leland Stanford Junior University, Stanford University, Calif. 1919

FISHER, JAMES, Professor of Mathematics and Physics, Michigan College of Mines, Houghton, Mich. 1899

FISK, IRA W., Associated with John A. Beeler, Consulting Engineer, New York, N. Y. 1914

FISK, WILBUR C., Chairman, Board of Directors, Hudson & Manhattan R. R. (Hudson River Tunnels), 30 Church St., New York, N. Y. 1914

FITTERER, J. C., Professor of Civil and Irrigation Engineering, University of Wyoming, Laramie, Wyo. 1912

FIXEN, V. L., 5 S. Wabash Ave., Chicago, Ill. 1919

FLATHER, J. J., Professor of Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1893

FLEMING, V. R., Assistant Professor of Applied Mechanics, University of Illinois, Urbana, Ill. 1909

FLETCHER, A. B., Highway Engineer, Dept. of Engineering, State of Califorina, Sacramento, Calif. 1913

FLETCHER, ROBERT, Director Emeritus of Thayer School of Civil Engineering and Emeritus Professor of Civil Engineering; President, N. H. State Board of Health, Dartmouth College, Hanover, N. H. 1894

FLOWERS, A. E., National Aniline and Chemical Company, Buffalo, N. Y. 1910

FOCKE, T. M., Dean of Faculty, Kerr Professor of Mathematics, Case School of Applied Science, Cleveland, O. 1907

FOLK, J. THOMAS, Instructor in Mechanical Engineering Department, Louisiana Industrial Institute, Ruston, La. 1914

FOLWELL, A. P., Managing Editor, *Municipal Journal*, Montclair, N. J. 1916

FOLTZ, LEROY S., Professor of Electrical Engineering, Colorado Agricultural College, Ft. Collins, Colo. 1918

FOOTE, F. S., JR., Professor of Railroad Engineering, University of California, Berkeley, Calif. 1910

FORAKER, F. A., Professor of Mathematics, University of Pittsburgh, Pittsburgh, Pa. 1914

FORD, ARTHUR H., Professor of Electrical Engineering, State University of Iowa, Iowa City, Ia. 1903

FORD, H. C., Associate Professor of Civil Engineering, Iowa State College, Ames, Ia. 1907

FORMAN, A. H., Professor of Electrical Engineering, West Virginia University, Morgantown, W. Va. 1916

FOSS, F. E., Professor of Civil Engineering, Cooper Union, New York, N. Y. 1893

FOSS, MARTIN M., Vice President and General Manager, McGraw-Hill Book Co., Inc., 239 W. 39th St., New York, N. Y. 1909

FOSTER, E. S., Chief Engineer The Packard Electric Co., Warren, Ohio 1911

FOSTER, JOHN M., Assistant Professor of Machine Design and Applied Mechanics, North Carolina State College of A. & E., West Raleigh, N. C. 1919

FOULK, C. W., Professor of Analytical Chemistry, The Ohio State University, Columbus, O. 1913

FOX, EARLE B., Associate Professor of Materials and Metallurgy, Post Graduate Dept., U. S. Naval Academy, Annapolis, Md.... 1920

FRANK, E. D. A., Mechanical Engineer, Marine Dept., C. H. Wheeler Mfg. Co., Philadelphia, Pa. 1917

FRANKLIN, WILLIAM S., Professor of Physics, Massachusetts Institute of Technology, Cambridge, Mass. 1900

FRAZER, JOHN, Dean of the Towne Scientific School and Assistant Professor of Chemistry, University of Pennsylvania, Philadelphia, Pa. 1914

FRAZIER, F. F., Assistant Professor of Civil Engineering, Kansas State Agricultural College, Manhattan, Kans. 1912

FREAR, J. B., American Radiator Company, Buffalo, N. Y..... 1911

FREEMAN, E. H., Professor of Electrical Engineering, Armour Institute of Technology, Chicago, Ill. 1909

FREEMAN, P. J., Engineer of Tests, Pittsburgh Testing Laboratory, Pittsburgh, Pa. 1914

FREEMAN, W. EDWIN, Professor of Electrical Engineering, University of Kentucky, Lexington, Ky. 1911

FRENCH, A. W., Professor of Civil Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1900

FRENCH, THOS. E., Professor of Engineering Drawing, The Ohio State University, Columbus, O. 1899

FREY, GEORGE J., Head, Department of Mechanical Drawing, Ohio Mechanics Institute, Cincinnati, Ohio 1919

FROST, HARWOOD, President, Brown Portable Conveying Machinery Co. Room 846, 10 S. LaSalle St., Chicago, Ill. 1907

FRY, H. P., Assistant Professor of Mechanical Drawing, Mechanical Engineering Department, University of Pennsylvania, Philadelphia, Pa. 1914

FRY, LAWFORD, H., General Inspector, Standard Steel Works Co., Burnham, Pa. 1911

FULLAN, M. T., Professor of Machine Design and Drawing, Alabama Polytechnic Institute, Auburn, Ala. 1915

FULLER, A. H., Professor of Civil Engineering, Lafayette College, Easton, Pa. 1901

FULLER, C. E., Professor of Theoretical and Applied Mechanics, Massachusetts Institute of Technology, Cambridge, Mass. 1907

FURIA, JOHN J., Instructor in Physics, New York University, New York, N. Y. 1919

FURMAN, FRANKLIN DER., Professor of Machine Design, Dean for Junior Class, Stevens Institute of Technology, Hoboken, N. J.. 1907

FURR, M. W., Instructor in Civil and Highway Engineering, Kansas State Agricultural College, Manhattan, Kans. 1917

GALPIN, S. L., Assistant Professor of Geology and Mining, Iowa State College, Ames, Ia. 1915

GARMAN, H. O., Chief Engineer of the Indiana Public Utilities Commission, 2062 N. Meridian St., Indianapolis, Ind. 1907

GARRETT, L. E., Associate Professor of Mathematics, University of Missouri, School of Mines and Metallurgy, Rolla, Mo. 1910

GAY, R. W., 159 Auburndale St., Memphis, Tenn. 1907

GEE, GEORGE B., Instructor in Civil Engineering, Northeastern College, Boston, Mass. 1919

GEHRIG, ARTHUR G., Associate Professor of Structural Engineering, University of Nebraska, Lincoln, Nebr. 1918

GEORGE, S. G., Professor of Mechanics of Engineering, College of Civil Engineering, Cornell University, Ithaca, N. Y. 1914

GIBSON, A. J., Care of Broken Hill Propy., Iron and Steel Works, Newcastle, N. S. Wales 1910

GIBSON, J. L., Dean of School of Arts and Sciences, Professor of Mathematics, University of Utah, Salt Lake City, Utah 1911

GIESECKE, F. E., Professor of Architectural Engineering, University of Texas, Austin, Tex. 1893
GILBERT, EARL R., Director, Department of Architectural Drafting and Design, Technological High School, Atlanta, Ga. 1919
GILBRETH, F. B., 68 Eagle Rockway, Montclair, N. J. 1911
GILCHRIST, J. F., Vice President, Commonwealth Edison Co., Chicago, Ill. 1911
GILL, L. M., Instructor in Chemistry, Georgia School of Technology, Atlanta, Ga. 1919
GILLESPIE, PETER, Associate Professor of Applied Mechanics, University of Toronto, Toronto, Ontario 1905
GILLETTE, H. P., Editor in Chief, *Engineering & Contracting*, 608 S. Dearborn St., Chicago, Ill. 1905
GILMORE, DAVID P., Associate Professor of Structural Engineering, The State University of Iowa, Iowa City, Ia. 1919
GILMORE, L. H., Professor of Physics, Throop College of Technology, Pasadena, Calif. 1912
GLADSON, W. N., Vice President, Dean, College of Engineering, University of Arkansas, Fayetteville, Ark. 1903
GODDARD, A. L., Supt. of Shops and Assistant Professor of Mechanical Practice, University of Wisconsin, Madison, Wis. 1912
GODDARD, R. W., Professor of Electrical Engineering, New Mexico College of A. & M. Arts, State College, N. Mex. 1915
GODFREY, HOLLIS, President, Drexel Institute; Commissioner, Advisory Commission of the Council of National Defense, Philadelphia, Pa. 1913
GOLDINGHAM, A. H., Sales Engineer, De la Vergne Machine Co., New York, N. Y. 1911
GOLDMAN, OTTO B., Professor of Heat Engineering, Oregon State Agricultural College, Corvallis, Ore. 1919
GOODENOUGH, G. A., Professor of Thermodynamics, University of Illinois, Urbana, Ill. 1900
GOSS, W. F. M., President, Railway Car Manufacturers Association, 61 Broadway, New York, N. Y. 1893
GOULD, FLETCHER A., Civil Engineer, Saginaw, Mich. 1916
GOULDING, HERBERT J., Associate Professor of Descriptive Geometry and Drawing, University of Michigan, Ann Arbor, Mich. 1914
GRAHAM, P. H., Professor of Physics and Astronomy, Agnes Scott College, Decatur, Ga. 1916
GRAHAM, WM. P., Professor of Electrical Engineering and Dean of the College of Applied Science, Syracuse University, Syracuse, N. Y. 1912

GRAM, L. M., Professor of Structural Engineering, University of Michigan, Ann Arbor, Mich. 1913
GRANDLIENARD, EDWARD T., Assistant Professor of Civil Engineering, University of Pennsylvania, Philadelphia, Pa. 1919
GRAY, ALEXANDER, Professor in charge of Electrical Engineering Department, Cornell University, Ithaca, N. Y. 1915
GRAY, JOHN C., Assistant Professor of Electrical Engineering and Physics, U. S. Naval Academy, Annapolis, Md. 1920
GREEN, ROY M., Professor of Highway Engineering, A. & M. College of Texas, College Station, Tex. 1916
GREENE, ARTHUR M., JR., Professor of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, N. Y. 1903
GREENOUGH, MAURICE B., Instructor in Civil Engineering, Case School of Applied Science, Cleveland, Ohio 1912
GREGG, JOHN M., Assistant Professor in charge of Electrical Engineering, Marquette University, Milwaukee, Wis. 1919
GREGORY, W. B., Professor of Experimental Engineering, Tulane University; Irrigation Engineer, U. S. Department of Agriculture, New Orleans, La. 1907
GREINER, J. E., Consulting Engineer, Fidelity Bldg., Baltimore, Md. 1911
GRENNAN, JOHN, Assistant Superintendent of Foundry, University of Illinois, Urbana, Ill. 1919
GREVE, F. W., JR., Assistant Professor of Hydraulic Engineering, Purdue University, LaFayette, Ind. 1912
GRISWOLD, ROBT. G., Chief Technologist, H. L. Doherty & Company, 60 Wall St., New York, N. Y. 1917
GROAT, B. F., Hydraulic Engineer, 2400 Oliver Bldg., Pittsburgh, Pa. 1899
GRONDAHL, L. O., Associate Professor of Physics, Carnegie Institute of Technology, Pittsburgh, Pa. 1915
GROVER, N. C., Chief Hydraulic Engineer, United States Geological Survey, Washington, D. C. 1894
GRUMBEIN, J. B., Professor of Steam and Experimental Engineering, West Virginia University, Morgantown, W. Va. 1912
GRUNDHOEFFER, E. F., The Pennsylvania State College, State College, Pa. 1915
GUMMERE, H. V., Breezy Knoll Farm, Glen Mills, Delaware, Co. Pa. 1914
GUNTHER, CHAS. O., Professor of Mathematics, Stevens Institute of Technology, Hoboken, N. J. 1907
GWIAZDOWSKI, A. S., President and General Manager, The Polish Mechanics Co., Inc. Toledo, O. 1917
HAGERTY, C. T., Professor of Mathematics and Astronomy, New Mexico College of A. & M. Arts, State College, New Mexico... 1911

HAIGLER, CHAS. E., Professor of Mathematics, Wentworth Institute, Boston, Mass. 1912
HALE, R. S., Supt., Special Research Dept. Edison Illuminating Company of Boston, Boston, Mass. 1916
HALL, ARTHUR A., Associate Professor of Applied Electricity, West Virginia University, Morgantown, W. Va. 1918
HALL, BURRILL R., Supt. of Pattern Shop, University of Illinois, Urbana, Ill. 1920
HALL, JAMES A., Assistant Professor of Mechanical Engineering, Brown University, Providence, R. I. 1914
HALL, P. R., Instructor in Iron Working, University of Pennsylvania, Philadelphia, Pa. 1912
HALL, W. H., Assistant Professor of Engineering, Trinity College, Durham, N. C. 1917
HALLOCK, J. W., Sales Manager, Harris Pump and Supply Co., Pittsburgh, Pa. 1915
HALSEY, F. A., Commissioner, American Institute of Weights and Measures, Room 1202, 115 Broadway, New York, N. Y. 1907
HALSEY, W. D., Instructor in Mechanical Engineering, George Washington University, Washington, D. C. 1917
HAM, WM. R., Professor of Physics, Pennsylvania State College, State College, Pa. 1914
HAMERSCHLAG, A. A., President, Carnegie Institute of Technology, Pittsburgh, Pa. 1903
HAMILTON, EDW. P., Secretary, John Wiley & Sons., Inc., 432 Fourth Ave., New York, N. Y. 1914
HAMILTON, GEO. A., 532 Morris Ave., Elizabeth, N. J. 1911
HAMILTON, J. McC., President, Montana State College of A. & M. Arts, Bozeman, Mont. 1912
HAMILTON, J. O., Professor of Physics, Kansas State Agricultural College, Manhattan, Kans. 1910
HAMLIN, HANNIBAL L., Division Head, Boston Industrial School for Boys, Boston, Mass. 1912
HAMMER, M. R., Associate Professor of Drawing, Northwestern University, Evanston, Ill. 1917
HAMMOND, H. P., Assistant Professor of Civil Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1916
HANCOCK, CHARLES, Professor of Mechanical Engineering, University of Virginia, University, Va. 1915
HANEY, J. W., Associate Professor of Mechanical Engineering, University of Nebraska, Lincoln, Nebr. 1916
HANNA, U. S., Associate Professor of Mathematics, Indiana University, Bloomington, Ind. 1915

HARBARGER, SADA A., Instructor in English, The Ohio State University, Columbus, Ohio 1918
HARDING, C. F., Professor of Electrical Engineering and Director of the Electrical Laboratories, Purdue University, LaFayette, Ind. 1908
HARING, ALEXANDER, 2259 Loring Place, Bronx, New York, N. Y... 1907
HARPER, A. C., Associate in Machine Design, University of Illinois, Urbana, Ill. 1911
HARRINGTON, J. L., Consulting Engineer, Harrington, Howard & Ash, Kansas City, Mo. 1903
HARRIS, C. L., Associate Professor of Architectural Engineering, The Pennsylvania State College, State College, Pa. 1914
HARRIS, F. C., Director, Agricultural and Industrial Engineering, The London Machinery Co., Fairfield, Iowa. 1910
HARRIS, WALTER B., Professor of Geodesy, Princeton, University, Princeton, N. J. 1914
HARTER, G. A., Professor of Mathematics and Physics, Delaware College, Newark, Del. 1905
HARTMANN, F. M., Professor of Electrical and Mechanical Engineering, Cooper Union, New York, N. Y. 1908
HARVEY, J. W., Assistant Professor of Electrical Engineering, University of Maine, Orono, Me. 1916
HASEMAN, CHARLES, Professor of Mathematics and Mechanics, University of Nevada, Reno, Nev. 1914
HASKELL, E. E., Dean of the College of Civil Engineering, Cornell University, Ithaca, N. Y. 1907
HASKELL, F. E., Assistant Examiner, U. S. Patent Office, Washington, D. C. 1914
HASKELL, M. W., Professor of Mathematics, University of California, Berkeley, Cal. 1910
HATCH, DAVID A., Assistant Professor of Mathematics, Lafayette College, Easton, Pa. 1908
HATT, W. K., Professor of Civil Engineering and Director of the Materials Testing Laboratory, Purdue University, LaFayette, Ind. 1895
HAULTAIN, H. E. T., Professor of Mining Engineering, University of Toronto, Toronto, Ont., Canada 1911
HAUSMANN, ERICH, Professor of Physics, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1914
HAVILAND, EDWIN, With the Seattle Lighting Co., Seattle, Wash... 1902
HAWES, J. H., Junior Master, Dorchester High School, Dorchester Center, Mass. 1900
HAWLEY, J. B., Consulting Engineer, F. and M. Bank Bldg., Ft. Worth, Tex. 1911

HAY, EARL D., Associate in Machine Design, College of Engineering, University of Illinois, Urbana, Ill. 1915

HAYFORD, J. F., Director of the College of Engineering, Northwestern University, Evanston, Ill. 1905

HAYWARD, H. W., Associate Professor of Applied Mechanics, Massachusetts Institute of Technology, Cambridge, Mass. 1904

HAZELTINE, L. A., Professor of Electrical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1910

HECK, ROBERT C. H., Professor of Mechanical Engineering, Rutgers College, New Brunswick, N. J. 1907

HEDRICK, E. R., Professor of Mathematics, University of Missouri, Columbia, Mo. 1910

HEDRICK, I. G., Senior Member of Hedrick & Huff, Consulting Engineers, 506 Inter State Bldg., Kansas City, Mo. 1903

HEDRICK, WM. A., Head of the Department of Physics of the High and Manual Training Schools, Central High School, Washington, D. C. 1913

HELMAN, M. P., Instructor in Mechanical Engineering, The Pennsylvania State College, State College, Pa. 1914

HENDERSON, W. E., Professor of Inorganic and Physical Chemistry, The Ohio State University, Columbus, Ohio. 1919

HENDRY, W. S., Instructor in Mechanic Arts, University of Arizona, Tucson, Ariz. 1915

HENLINE, HENRY H., Instructor in Electrical Engineering, Leland Stanford Jr. University, Stanford University, Calif. 1919

HENSHALL, P. P., Instructor in Machine Shop, Pennsylvania State College, State College, Pa. 1915

HERING, RUDOLPH, Hydraulic and Sanitary Consulting Engineer, 170 Broadway, New York, N. Y. 1911

HERTY, C. H., Editor, *Journal of Industrial and Engineering Chemistry*, 35 East 41st St., New York, N. Y. 1912

HEWERDINE, T. S., Consulting Civil and Hydraulic Engineer, Olivia, Minn. 1907

HEWITT, C. E., Dean of Engineering, New Hampshire College of A. & M. Arts, Durham, N. H. 1915

HEWLETT, VAN WYCH, JR., Assistant Professor of Mechanical Engineering, Pennsylvania State College, State College 1920

HIBBARD, H. WADE, Professor of Mechanical Engineering, University of Missouri, Columbia, Mo. 1896

HICKERSON, T. F., Associate Professor of Civil Engineering, University of North Carolina, Chapel Hill, N. C. 1914

HIGBEE, F. G., Professor and Head of the Department of Descriptive Geometry and Drawing, State University of Iowa, Iowa City, Ia. 1906

HIGBIE, H. H., Professor of Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1908
HILL, ARTHUR ST. JOHN, Associate Professor of Electrical Engineering, University of Maine, Orono, Me. 1919
HILL, CLIFTON R., Assistant Professor of Civil Engineering, University of Nevada, Reno, Nev. 1918
HILL, J. E., Professor of Civil Engineering, Brown University, Providence, R. I. 1894
HILL, WM. W., Professor of Electrical Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1912
HILLEBRAND, W. A., 345 Kellog Ave., Palo Alto, Calif. 1910
HILLEGASS, H. H., Engineering Dept,. Bell Telephone Co. of Penna., Philadelphia, Pa. 1916
HINSCH, VAN BUREN, Instructor in Mathematics, Missouri School of Mines and Metallurgy, Rolla, Mo. 1919
HIROI, ISAMI, Professor of Civil Engineering, Tokyo Imperial University, College of Engineering, Tokyo, Japan 1910
HITCHCOCK, F. A., Associate Engineer, Bureau of Standards, Washington, D. C. 1913
HITCHCOCK, GEO. G., Professor of Physics, Pomona College, Claremont, Calif. 1911
HITCHCOCK, W. A., Assistant Professor of Civil Engineering, University of Wyoming, Laramie, Wyo. 1915
HIXON, C. R., Assistant Professor of Mechanical Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1910
HOAD, W. C., Professor of Sanitary Engineering, University of Michigan, Ann Arbor, Mich. 1907
HODGKINS, H. L., Dean of the College of Engineering and Professor of Mathematics, George Washington University, Washington, D. C. 1908
HODSON, L. C., Associate Professor of Mining Engineering, Iowa State College, Ames, Ia. 1915
HOEFER, E. G., Professor of Mechanical and Electrical Engineering, University of Wyoming, Laramie, Wyo. 1910
HOELSCHER, RANDOLPH P., Instructor in General Engineering Drawing, University of Illinois, Urbana, Ill. 1912
HOERNING, CARLOS, Professor of Mechanical Engineering, Universidad de Chile, Santiago, Chile 1912
HOEXTER, S. J., Industrial Education Work, Emerson Institute of Efficiency, Detroit, Mich. 1914
HOFMANN, G. A., Professor of Mechanical Engineering, St. Mary College, Dayton, O. 1916
HOFMAN, H. O., Professor of Metallurgy, Massachusetts Institute of Technology Division, Cambridge, Mass. 1894

HOFFMAN, A. H., Research Specialist of Agricultural Engineering, University Farms, Davis, Calif. 1907

HOFFMAN, J. D., Head, Dept. of Practical Mechanics; Professor of Practical Mechanics; Director, Laboratories of Practical Mechanics, Purdue University, LaFayette, Ind. 1907

HOGG, WM. T., Instructor in Civil Engineering, The Tulane University, New Orleans. La. 1914

HOLBROOK, E. A., Supervising Mining Engineer and Metallurgist, U. S. Bureau of Mines, Pittsburgh, Pa. 1912

HOLDEN, C. A., Director, Thayer School of Civil Engineering, Dartmouth College, Hanover, N. H. 1901

HOLDER, F. J., Professor of Mathematics and Dean of School of Commerce, Mercer University, Macon, Ga. 1912

HOLLIS, I. N., President, Worcester Polytechnic Institute, Worcester, Mass. 1894

HOLLISTER, S. C., Wig & Hollister, Engineers, 320 Widener Building, Philadelphia, Pa. 1916

HOLMAN, W. F., Associate Professor of Mathematics and Mechanics, University of Minnesota, Minneapolis, Minn. 1912

HOLMES, FRED E., Assistant Professor of Mechanisms and Hydraulics, The State University of Iowa, Iowa City, Ia. 1919

HOLMES, PAUL E., Assistant Instructor, Kansas State Agricultural College, Manhattan, Kans. 1917

HOLTON, EDWIN L., Professor of Education and Dean of Summer School, Kansas State Agricultural College, Manhattan, Kans... 1919

HOOD, GEO. J., Professor of Engineering Drawing, University of Kansas, Lawrence, Kans. 1914

HOOD, O. P., 1831 Irving St., N. W., Washington, D. C. 1893

HOOPER, E. G., Assistant Professor of Civil Engineering, New York University, New York, N. Y. 1909

HOOVER, THEODORE J., Professor of Mining and Metallurgy, Leland Stanford Jr. University, Stanford University, Calif. 1919

HOSKINS, L. M., Professor of Applied Mathematics, 365 Lincoln Ave., Palo Alto, Calif. 1893

HOSMER, GEO. L., Associate Professor of Topographical Engineering, Massachusetts Institute of Technology, Cambridge, Mass.. 1914

HOUGHTON, C. E., Professor of Mechanics, New York University, New York, N. Y. 1908

HOUSE, E. B., Professor of Civil and Irrigation Engineering, Colorado State Agricultural College, Ft. Collins, Colo. 1913

HOUSTON, HALE, Professor of Civil Engineering, Clemson A. & M. College, Clemson College, S. C. 1914

HOWARD, J. W., Assistant Professor of Topographical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1907

HOWE, C. D., Partner, C. D. Howe & Co., Consulting Engineers, Port Arthur, Ontario, Canada 1912
HOWE, C. S., President of the Case School of Applied Science, Cleveland, O. 1902
HOWE, LEON B., Professor of Drawing, College of Applied Science, Syracuse University, Syracuse, N. Y. 1917
HOWELL, R. S., Assistant Professor of Experimental Engineering, Georgia School of Technology, Atlanta, Ga. 1919
HOWER, H. S., Professor of Physics, Carnegie Institute of Technology, Pittsburgh, Pa. 1914
HOXTON, L. G., Professor of Physics, University of Virginia, University, Va. 1915
HUBBARD, A. K., with B. E. Briggs, Consulting Engineer, Erie, Pa.. 1907
HUGHES, H. J., Professor of Civil Engineering, Harvard University, Cambridge, Mass. 1907
HUME, ALFRED, Vice-Chancellor, Dean, College of Liberal Arts, and Professor of Mathematics, University of Mississippi, University, Miss. 1894
HUMPHREY, H. K., Assistant Professor of Electrical Engineering, Rice Institute, Houston, Tex. 1918
HUMPHREYS, A. C., President, Stevens Institute of Technology, Hoboken, N. J. 1903
HUMPHREYS, D. C., Dean of the School of Applied Science and Professor of Civil Engineering, Washington and Lee University, Lexington, Va. 1893
HUNT, CHAS. WARREN, Secretary, the American Society of Civil Engineers, 33 West 39th St., New York, N. Y. 1911
HUNT, ROBERT W., Senior Member of Robert Hunt & Co., Chicago, Ill. 1913
HUNTER, J. A., Professor of Mechanical Engineering, University of Colorado, Boulder, Colo. 1904
HUNTINGTON, E. V., Associate Professor of Mathematics, Harvard University, Cambridge, Mass. 1906
HUNTINGTON, W. C., Professor of Civil Engineering, University of Colorado, Boulder, Colo. 1914
HUTCHINS, R. E., Assistant Professor of Mechanics, State University of Iowa, Iowa City, Ia. 1912
HYDE, A. L., Associate Professor of Bridge Engineering, University of Missouri, Columbia, Mo. 1904
HYDE, E. P., Director, Nela Research Laboratory, National Lamp Works of General Electric Co., Nela Park, Cleveland, O. 1911
INGRAM, E. L., Professor of Railroad Engineering and Geodesy, University of Pennsylvania, Philadelphia, Pa. 1908

IVES, F. W., Professor of Agricultural Engineering, The Ohio State University, Columbus, O. 1910

IVES, H. C., Professor of Railroad Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1901

IYER, R. P., Supervisor, Public Works Department, Teruverambur P. O., Trechwofoltz District, Deccan, India 1910

JABLOW, CHARLES, Professor of Mechanical Engineering, in charge of Department, Oklahoma A. & M. College, Stillwater, Okla. ... 1910

JACKSON, DUGALD C., Professor of Electrical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1893

JACOBUS, D. S., Advisory Engineer, The Babcock & Wilcox Co., 85 Liberty St., New York, N. Y. 1893

JACOBY, H. S., Professor of Bridge Engineering, Cornell University, 105 Harvard Place, Ithaca, N. Y. 1894

JAMES, H. C., Associate Professor of Structural Engineering, University of Michigan, Ann Arbor, Mich. 1920

JAMES, J. H., Professor of Chemistry, Carnegie Institute of Technology, Pittsburgh, Pa. 1910

JAMES, R. L., Assistant Professor of Engineering Drawing, University of North Carolina, Chapel Hill, N. C. 1914

JAMES, W. G. Associate Professor of Electrical Engineering, A. & M. College of Texas, College Station, Tex. 1917

JAMESON, J. M., Vice President, Girard College, Philadelphia, Pa.. 1903

JENKINS, A. LEWIS, Associate Professor of Mechanical Engineering, University of Cincinnati, O. 1907

JENKINS, D. R., Assistant Professor of Electrical Engineering, University of North Dakota, University, N. D. 1912

JEWETT, F. B., Chief Engineer, Western Electric Co., Inc., 463 West St., New York, N. Y. 1914

JOHNSON, A. R., Associate Professor of Civil Engineering and Graphics, Rutgers College, New Brunswick, N. J. 1909

JOHNSON, C. A., Larimer, Pa. 1915

JOHNSON, E. A., Head of the Foundry Dept., Wentworth Institute, Boston, Mass. 1913

JOHNSON, F. ELLIS, Associate Professor of Electrical Engineering, University of Kansas, Lawrence, Kans. 1916

JOHNSON, L. J., Professor of Civil Engineering, Harvard University and Massachusetts Institute of Technology, Cambridge, Mass. 1898

JOHNSON, PHELPS, President, St. Lawrence Bridge Co., Montreal, Canada 1910

JOHNSON, WM. F., Philadelphia Electric Co., Philadelphia, Pa. 1913

JOHNSTON, C. T., Professor of Geodesy and Surveying, Custodian of the Bogardus Tract, and Director Camp Davis, University of Michigan, Ann Arbor, Mich. 1913

JOHNSTON, W. A., Professor of Theoretical and Applied Mechanics, Massachusetts Institute of Technology, Cambridge, Mass. 1907

JONES, C. R., Dean of the College of Engineering and Professor of Power Engineering, West Virginia University, Morgantown, W. Va. 1895

JONES, E. C., Instructor in Shop Practice, Kansas State Agricultural College, Manhattan, Kans. 1917

JONES, F. E., Assistant Professor of Mechanic Arts, University of Kansas, Lawrence, Kans. 1915

JONES, F. R., 111 Broadway, N. Y. 1893

JONES, J. O., Assistant Professor of Hydraulics, University of Kansas, Lawrence, Kans. 1916

JONES, LAUDER W., Dean, School of Chemistry and Dean, College of Engineering and Architecture, University of Minnesota, Minneapolis, Minn. 1920

JORDAN, H. H., Associate in General Engineering Drawing, University of Illinois, Urbana, Ill. 1915

JOURDAN, JOHN W., Assistant Professor of Irrigation Engineering, New Mexico College of A. & M. Arts, State College, N. Mex... 1919

JUDD, HORACE, Associate Professor of Hydraulic Engineering, The Ohio State University, Columbus, O. 1907

JUNE, HENRY N., Head, School of Architecture, Ohio Mechanics Institute, Cincinnati, Ohio 1919

KAMRASS, BENJAMIN, Assistant Engineer. Engineering Experiment Station, Iowa State College, Ames, Ia. 1917

KANE, S. M., Instructor in Metal Work and Chief Engineer, University of Washington, Seattle, Wash. 1918

KARAPETOFF, VLADIMIR, Professor of Electrical Engineering, Cornell University, Ithaca, N. Y. 1909

KAVANAUGH, W. H., Professor of Experimental Engineering, University of Pennsylvania, Philadelphia, Pa. 1902

KAY, EDGAR B., Consulting Engineer, 1416 R St., N. W., Washington, D. C. 1898

KAZDA, CHARLES B., Head Instructor Graduate Student Course, Central Station Institute, Commonwealth Edison Company; Instructor in Physics and Electrical Engineering, Junior College of Crane Technical High School, Chicago, Ill. 1918

KEGERREIS, ROY, Professor of Electrical Engineering, Delaware College, Newark, Del. (Life Member) 1913

KELLER, A. R., Pleasanton Hotel, Honolulu, T. H. 1910

KELLER, GEORGE J., Assistant Professor of Steam Engineering, The State University of Iowa, Iowa City, Ia. 1919

KELLER, J. O., Associate Professor of Mechanical Engineering, Iowa State College, Ames, Iowa 1916

KELLEY, HOWARD G., President, Grand Trunk Railway System, Montreal, P. Q., Canada 1910

KELLOGG, E. W., Research Laboratory, General Electric Co., Schenectady, N. Y. 1913

KENERSON, W. H., Professor of Mechanical Engineering and Executive Secretary, Division of Engineering, Brown University, Providence, R. I. 1903

KENISON, ERVIN, Associate Professor of Drawing and Descriptive Geometry, Massachusetts Institute of Technology, Cambridge, Mass. 1912

KENNEDY, F. L., Associate Professor of Engineering Drawing, Harvard University, Cambridge, Mass. 1904

KENNELLY, A. E., Professor of Electrical Engineering, Harvard University and Massachusetts Institute of Technology, Cambridge, Mass. 1916

KENT, H. L., Principal, School of Agriculture, and Professor of Vocational Education; State Director for Vocational Agriculture, Kansas State Agricultural College, Manhattan, Kans. ... 1915

KENT, J. M., Instructor in Steam and Electricity, Manual Training High School and Polytechnic Institute Night School, Kansas City, Mo. 1903

KERR, E. W., 182 C St., Vedado, Havana, Cuba..... 1910

KETCHUM, MILO S., Professor-in-charge of Civil Engineering, University of Pennsylvania, Philadelphia, Pa. 1903

KETTERING, CHARLES F., President, The Dayton Engineering Laboratories Company, Dayton, Ohio. 1919

KIDD, J. W., Professor of Engineering, Texas State School of Mines and Metallurgy, Fort Bliss, Tex. 1908

KIEFER, P. J., Assistant Professor of Steam Engineering, University of Illinois, Urbana, Ill. 1917

KIMBALL, D. S., Professor of Machine Design and Industrial Engineering, Cornell University, Ithaca, N. Y. 1915

KING, CARL, Instructor in Applied Mechanics, Materials of Construction, Wentworth Institute, Boston Mass. 1912

KING E. E., Professor of Railway Civil Engineering, Iowa State College, Ames, Ia. 1908

KING, H. W., Professor of Hydraulic Engineering, University of Michigan, Ann Arbor Mich. 1913

KING, R. S., Professor of Experimental Engineering, Georgia School of Technology, Atlanta Ga. 1904

KINGSBURY, ALBERT, Engineer, Oliver Building, Pittsburgh, Pa.... 1893
KINSEY, A. S., Professor of Shop Practice, Stevens Institute of Technology, Hoboken, N. J. 1912
KINSLEY, CARL, 51st Floor, Woolworth Building, New York, N. Y.. 1903
KIRBY, R. S., Assistant Professor of Drawing and Descriptive Geometry, Sheffield Scientific School, Yale University, New Haven, Conn 1911
KIRCHNER, W. H., Professor of Drawing and Descriptive Geometry, University of Minnesota, Minneapolis, Minn. 1910
KIRK, R. R., Assistant Professor of English, Georgia School of Technology, Atlanta, Ga. 1919
KIRKHAM, J. E., Professor of Structural Engineering, Iowa State College, Ames, Ia. 1915
KLEIN, A. W., Professor of Mechanical Engineering, Lehigh University, Bethlehem, Pa. 1908
KLOEFFLER, BOYCE G., Assistant Professor of Electrical Engineering, Kansas State Agricultural College, Manhattan, Kans. 1919
KNAPP, E. R., Professor of Descriptive Geometry and Mechanical Drawing, Stevens Institute of Technology, Hoboken, N. J. 1912
KNEALE, R. D., Professor of Highway Engineering, Georgia School of Technology, Atlanta, Ga. 1912
KNIGHT, C. D., Assistant Professor of Experimental Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1907
KNIGHT, NATHANIEL H., Instructor in Physics, Tufts College, Tufts College, Mass. 1920
KNIGHT, W. A., Professor of Mechanical Practice, The Ohio State University, Columbus, O. 1907
KNOCH, JULIUS J., Castes & Knoch, Civil & Consulting Engineers, 803–7 A. O. U. W. Bldg., Little Rock, Ark. 1898
KNOETTGE, CARL H., Instructor in Civil Engineering, University of Colorado, Boulder Col. 1918
KNOWLES, MORRIS, Director, Department of Sanitary Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
KOERBER, G. A., Professor of Electrical Engineering, Delaware College, Newark, Del. 1915
KONDO, SENTARO, Civil Engineer, No. 27 Tatsuokacho Hongo, Tokoyo, Japan 1911
KONDO, TORAGORO, Chief of Technical Division, Public Works Bureau, Home Department, Tokyo, Japan (Life Member).... 1911
KOVARIK ALOIS F., Assistant Professor of Physics, Sheffield Scientific School, Yale University, New Haven, Conn. 1919
KOWALKE, OTTO L., Professor of Chemical Engineering, University of Wisconsin, Madison, Wis. 1918

KREWSON, R. H., Instructor in Iron Working, University of Pennsylvania, Philadelphia, Pa. 1912
KROTZER, FRED. W., Instructor in Electricity, Central Continuation School, Y. M. C. A., Milwaukee, Wis. 1915
KUNZE, E. J., Professor and Head, Dept. of Industrial Engineering, The Pennsylvania State College, State College, Pa. 1907
LAMBERT, B. J., Professor of Structural Engineering, State University of Iowa, Iowa City, Ia. 1907
LAMBERT, P. A., Professor of Mathematics, Lehigh University, Bethlehem, Pa. 1897
LAMBIE, J. S., Associate Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914
LANDRETH, OLIN H., 156 Fifth Avenue, New York, N. Y. 1893
LANGILLE, H. B., Associate Professor of Machine Design and Mechanical Drawing, University of California, Berkeley, Cal. ... 1915
LANGFORD, ERNEST, Instructor in General Engineering Drawing, University of Illinois, Urbana, Ill. 1920
LANGSDORF, A. S., Dean of the Schools of Engineering and Architecture and Professor of Electrical Engineering, Washington University, St. Louis, Mo. 1903
LANIER, A. C., Professor of Electrical Engineering, University of Missouri, Columbia, Mo. 1915
LAPHAM, J. R., Professor of Civil Engineering, George Washington University, Washington, D. C. 1912
LAPHAM, J. S., Adjunct Professor of Experimental Engineering, University of Virginia, University, Va. 1915
LARKIN, F. V., Head, Department of Mechanical Engineering, Lehigh University, Bethlehem, Pa. 1912
LARSON, G. L., Associate Professor of Steam and Gas Engineering, 27 Lathrop St., Madison, Wis. 1911
LAURSON, PHILIP G., Assistant Professor of Engineering Mechanics, Sheffield Scientific School, Yale University, New Haven, Conn. 1920
LAWRANCE, C. H., Assistant Professor of Applied Mechanics, Purdue University, LaFayette, Ind. 1906
LAWRENCE, C. W., Professor of Civil Engineering, University of Southern California, Los Angeles, Cal. 1909
LAWRENCE, R. R., Associate Professor of Electrical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1907
LAWS, F. A., Professor of Electrical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1909
LAWTON, E. E., Associate Professor of Electrical Engineering, Syracuse University, Syracuse, N. Y. 1910
LECONTE, J. N., Professor of Engineering Mechanics, University of California, Berkeley, Calif. 1913

LIST OF MEMBERS.

LEFEBVRE, OLIVIER O., Chief Engineer, Quebec Streams Commission, 247 Mount Royal West, Montreal, Canada 1919

LELAND, O. M., Professor of Geodesy and Astronomy and Head of Dept. of Topographic and Geodetic Engineering, Cornell University, Ithaca, N. Y. 1908

LENDALL, H. N., Associate Professor of Civil Engineering, Rutgers College, New Brunswick, N. J. 1912

LEONARD, HEMAN BURR, Professor of Mathematics, University of Arizona, Tucson, Ariz. 1919

LEPAGE, CLIFFORD B., Assistant Professor of Physics, Stevens Institute of Technology, Hoboken, N. J. 1908

LESTER, O. C., Professor of Physics, Dean of Graduate School, University of Colorado, Boulder, Colo. 1912

LETELLIER, L. S., Professor of Civil Engineering and Drawing, The Citadel, The Military College of South Carolina, Charleston, S. C. 1912

LEUTWILER, O. A., Professor of Machine Design, University of Illinois, Urbana, Ill. 1906

LEWIS, F. J., Instructor in Civil Engineering, The Rice Institute, Houston, Tex. 1916

LEWIS, J. F., Electrical and Railway Engineer, 505 Brinton St., Germantown, Philadelphia, Pa. (Life Member) 1913

LIEB, J. W., Vice-President, The New York Edison Co., 124 E. 15th St., New York, N. Y. 1911

LIGHT, J. J., Assistant Professor of Mechanical Engineering, Pennsylvania State College, State College, Pa. 1917

LILLY, S. B., Assistant Plant Engineer, Merchant Shipbuilding Corporation, Swarthmore, Pa. 1913

LINCOLN, P. M., Director of the Dept. Electrical Engineering, University of Pittsburgh; Consulting Engineer, Lincoln Electric Co., Cleveland, O. 1911

LINDEMANN, C. A., Professor of Civil Engineering, Bucknell University, Lewisburg, Pa. 1905

LINVILLE, C. P., Metallurgical Engineer American Smelting & Refining Co., Perth Amboy, N. J. 1904

LITTLE, ARLINGTON P., Professor of Electrical Engineering, Colorado School of Mines, Golden, Colo. 1918

LITTLE, C. N., Dean of the College of Engineering and Professor of Civil Engineering, University of Idaho, Moscow, Idaho 1907

LITTLE, G. T., Instructor, Portland High School, Electrical Department, Portland, Maine 1916

LOCKWOOD, E. H., Assistant Professor of Mechanical Engineering, Yale University, New Haven, Conn. 1908

LONG, J. J., Assistant Professor of Civil Engineering, University of Cincinnati, Cincinnati, O. 1911

LONGYEAR, J. M., Member Board of Control, Michigan College of Mines, Marquette, Mich. 1905

LORY, C. A., President, State Agricultural College of Colorado, Fort Collins, Colo. 1908

LOVE, A. C., Professor of Railway Engineering, Texas A. & M. College, College Station, Texas 1900

LOVELL, ALFRED H., Professor of Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1920

LUBY, WM. A., Head of Dept. of Mathematics, Junior College of Kansas City, Kansas City, Mo. 1914

LUCKE, C. E., Professor of Mechanical Engineering and Head of Dept., Columbia University, New York, N. Y. 1906

LUDERITZ, JOAO, Engenheiro Chefo-Instituto Technico Professional, Porto Alegre, Brazil 1909

LUDY, L. V., Professor of Experimental Engineering, Purdue University, LaFayette, Ind. 1902

LUND, JACOB, Supt. Heat and Power Dept., Kansas State Agricultural College, Manhattan, Kans. 1910

LUNDGREN, LEONARD, Senior Instructor, Highway and Bridges, Educational Branch, War Plans Division, U. S. Army, Camp Gordan, Ga. 1907

LUTHER, H. B., Assistant Professor Civil Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1914

LYLE, WM. T., Rice Institute, Houston, Tex. 1914

LYMAN, RICHARD R., Professor of Civil Engineering, University of Utah, Salt Lake City, Utah 1908

LYNCH, D. E., Intructor in Forging, Foreman, Blacksmith Shop, Kansas State Agricultural College, Manhattan, Kans. 1915

MCADAMS, EDWARD E., Associate Professor of Civil Engineering, A. & M. College of Texas, College Station, Tex. 1918

MCALLISTER, A. S., Electrical Engineer, Engineers' Club, New York, N. Y. 1911

MCCAFFERY, R. S., Professor of Metallurgy, University of Wisconsin, Madison, Wis. 1911

MCCANDLISS, EDGAR S., Associate Professor of Civil Engineering, University of Missouri, School of Mines and Metallurgy, Rolla, Mo. 1915

MCCANDLISS, L. C., Assistant Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1914

MCCANN, WM. R., Electrical Engineer, care of Stone & Webster, 147 Milk St., Boston, Mass. 1912

McCaustland, E. J., Dean, School of Engineering, and Director Engineering Experiment Station, University of Missouri, Columbia, Mo. 1902

McClelland, E. H., Technology Librarian, Carnegie Library of Pittsburgh, Pittsburgh, Pa. 1912

McClintic, H. H., Vice-President McClintic-Marshall Construction Co., Pittsburgh, Pa. 1910

McComb, Dana Q., Division Engineer, State Highway Dept., Nashville, Tenn. 1916

McCormick, C. M., Instructor in Electrical Engineering, University of Colorado, Boulder, Colo. 1917

McCormick, E. B., Mechanical Engineer, Office of Public Roads and Rural Engineering, U. S. Dept. of Agriculture, Washington, D. C. 1908

McCormick, S. B., Chancellor, University of Pittsburgh, Pittsburgh, Pa. 1914

McCrillis, John W., Moran School, Rolling Bay, Wash. 1919

McCullough, F. M., Professor of Civil Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1910

McDaniel, Allen B., Principal Engineer, Construction Division of the Army; Acting Professor of Civil Engineering, George Washington University, Washington, D. C. 1907

McDiarmid, George Cox, Head, Dept. of Mathematics, Ohio Mechanic Institute, Cincinnati, O. 1919

McDonald, P. B., Assistant Professor of English, New York University, University Heights, New York, N. Y. 1917

McEachnon, K. B., General Delivery West LaFayette, Ind. 1916

McGowan, John, Professor of Applied Mechanics, University of Toronto, Toronto, Ont., Canada 1914

McGrath, E. L., Instructor in Engineering Mathematics, University of Colorado, Boulder, Colo. 1916

McIntyre, Lewis W., Assistant Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1919

McKee, Ralph H., Professor of Chemical Engineering, Columbia University, New York, N. Y. 1919

McKergow, C. M., Associate Professor of Mechanical Engineering, McGill University, Montreal, Canada 1913

McKibben, F. P., Professor of Civil Engineering, Union College, Schenectady, N. Y. 1904

McMillin, Emerson, Chairman, Board of Directors, American Light & Traction Co., and President of many Companies, Ramsey, N. J. (Life Member) 1911

McNair, F. W., President, Michigan College of Mines, Houghton, Mich. 1897

McNaugher, D. W., Partner, Robert W. Hunt & Co., Engineers, Pittsburgh, Pa. 1910
McNeilly, Robert H., Associate Professor of Civil Engineering, Vanderbilt University, Nashville, Tenn. 1919
McNown, W. C., Associate Professor of Civil Engineering, University of Kansas, Lawrence, Kans. 1915
McRae, A. L., Director Missouri School of Mines, Rolla, Mo. 1907
Macarthur, J. R., Professor of English, Kansas State Agricultural College, Manhattan, Kans. 1915
MacCracken, J. H., President, Lafayette College, Easton, Pa. 1913
Macdonald, S. L., Head of the Department of Mathematics, Colorado State Agricultural College, Ft. Collins, Colo. 1914
Mack, Albert J., Instructor in Steam and Gas Engineering, Kansas State Agricultural College, Manhattan, Kans. 1919
MacKavanagh, T. J., Professor of Electrical Engineering, Catholic University of America, Washington, D. C. 1916
MacKay, H. M., Professor of Civil Engineering, McGill University, Montreal, Quebec, Canada 1914
Mackenzie, C. J., Professor of Civil Engineering, University of Saskatchewan, Saskatoon, Sask., Canada 1915
MacNaughton, Edgar, Assistant Professor of Mechanical Engineering, Tufts College, Tufts College, Mass. 1916
MacNaughton, Jas., Vice-President and General Manager, Calumet and Hecla Mines; Member Board of Control, Michigan College of Mines, Calumet, Mich. 1905
MacNutt, Barry, Professor of Physics, Lehigh University, Bethlehem, Pa. 1910
Macomber, G. S., Electrical Engineer with Milo R. Maltbie, Public Utility Consultant, 177 Broadway, New York, N. Y. 1904
Magnusson, C. E., Professor of Electrical Engineering, University of Washington, Seattle, Wash. 1907
Magruder, Wm. T., Professor of Mechanical Engineering, The Ohio State University, Columbus, O. 1893
Main, C. T., Consulting and Constructing Engineer, 14 Herrick St., Winchester, Mass. 1911
Mallory, Francis, Professor of Physics and Electrical Engineering, Virginia Military Institute, Lexington, Va. 1912
Mallory, W. F., Assistant Professor of Mechanical Engineering, University of Colorado, Boulder, Colo. 1915
Mann, C. A., Associate Professor of Industrial Chemistry, University of Minnesota, Minneapolis, Minn. 1917
Mann, C. L., Professor of Civil Engineering, North Carolina State College of Agriculture and Engineering, West Raleigh, N. C... 1917

MANN, C. R., 350 State, War and Navy Building, Washington, D. C. 1914
MANN, C. V., 957 Grant Place, Boulder, Colo. 1916
MANN, HORACE T., Professor of Metallurgy, Montana State School of Mines, Butte, Mont. 1919
MARK, ROBERT M., Civil Engineer, Highways, Spencerport, Monroe Co., N. Y. 1909
MARKER, J. R., Chief Engineer, Ohio Paving Brick Mfgrs. Association, Columbus, O. 1913
MARKS, L. S., Professor of Mechanical Engineering, Harvard University, Cambridge, Mass. 1909
MARQUIS, F. W., Professor of Steam Engineering, Ohio State University, Columbus, Ohio 1910
MARSTON, ANSON, Dean of the Division of Engineering and Director of the Engineering Experiment Station, Iowa State College, Ames, Ia. 1894
MARTEL, R. R., Throop College, Pasadena, Calif. 1915
MARTENIS, J. VAN S., Associate Professor of Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1908
MARTIN, EDWIN R., Instructor in Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1920
MARTIN, T. C., Advisory Secretary, The National Electric Light Association, 29 West 39th St., New York, N. Y. 1909
MARTIN, W. H., Associate Professor of Mechanical Engineering, Pennsylvania State College, State College, Pa. 1913
MARVIN, HENRY H., Professor of Physics, Brace Laboratory of Physics, University of Nebraska, Lincoln, Nebr. 1914
MARX, C. D., Professor of Civil Engineering, Leland Stanford Junior University, Stanford University, Calif. 1893
MATHESON, K. G., President, Georgia School of Technology, Atlanta, Ga. 1916
MATHEWS, H. B., Assistant Dean of Faculty and Professor of Physics, South Dakota State College of A. and M. Arts, Brookings, S. D. 1896
MATHEWS, RAYMOND, Assistant Professor of Civil Engineering, University of Mississippi, University, Miss. 1918
MATHEWS, R. M., Instructor in Mathematics, Riverside Jr. College, Riverside, Calif. 1917
MATHEWSON, JAS. S., Engineer in Forest Products, U. S. Forest Products Laboratory, Madison, Wis. 1914
MATTE, LUIS, Civil Engineer, Agustinas 1319, Santiago, Chile 1917
MATTHEWS, ROBERTSON, Assistant Professor of Power Engineering, Cornell University, Ithaca, N. Y. 1910

MAURER, E. R., Professor of Mechanics, University of Wisconsin, Madison, Wis. 1897
MAVITY, V. T., Instructor in Electrical Engineering, University of Cincinnati, Cincinnati, O. 1917
MAY, CHAS. C., Instructor in Civil Engineering, University of Washington, Seattle, Wash. 1912
MEAD, D. W., Professor of Hydraulic and Sanitary Engineering, University of Wisconsin, Madison, Wis. 1908
MEASE, J. A., Buffalo, N. Y. 1909
MEEKER, W. H., Professor of Mechanical Engineering, Iowa State College, Ames, Ia. 1903
MEES, C. L., President Emeritus, Rose Polytechnic Institute, Terre Haute, Ind. 1894
MÉHELY, KÁLMÁN, Director of the Society of Hungarian Ironworks and Machinery Factories, Budapest, Hungary 1909
MEIKLEJOHN, ROBERT, Assistant Professor of Engineering Drawing, Ohio State University, Columbus, O. 1909
MELLER, H. B., Dean, School of Mines, Professor of Mining, University of Pittsburgh, Pittsburgh, Pa. 1915
MENDENHALL, T. C., 329 N. Chestnut St., Ravenna, O. (Honorary Member) 1895
MERRILL, J. F., Director of the Utah State School of Mines and Engineering; Professor of Physics and Electrical Engineering, University of Utah, Salt Lake City, Utah 1907
MERRILL, J. L., Instructor in Mechanical Drawing, University of Colorado, Boulder, Colo. 1915
MERRIMAN, MANSFIELD, 1071 Madison Ave., New York, N. Y. 1893
MICKEY, CLARK E., Associate Professor of Applied Mechanics and Machine Design, University of Nebraska, Lincoln, Nebr. 1912
MICKLE, FRANK A., Assistant Professor of Mechanical Engineering, University of Michigan, Ann Arbor, Mich. 1917
MILLAR, A. V., Associate Professor of Drawing, University of Wisconsin, Madison, Wis. 1914
MILLER, DAYTON C., Professor of Physics, Case School of Applied Science, Cleveland, O. 1907
MILLER, HUGH, Lecturer in Civil Engineering, Rice Institute, Houston, Tex. 1909
MILLER, N. C., Assistant Professor, Engineering Extension, The Pennsylvania State College, State College, Pa. 1914
MILLER, S. O., Assistant Professor of Engineering Drafting, Columbia University, New York, N. Y. 1917
MING, FREDERICK W., Instructor in Mechanical Engineering, The Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1918

MITCHAM, G. N., Professor of Civil Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1906

MITCHELL, GROVER I., Assistant Professor of Mechanical Engineering, Extension Division, University of Wisconsin, Madison, Wis. 1918

MITCHELL, LOUIS, Professor of Civil Engineering, Syracuse University, Syracuse, N. Y. 1913

MOLBY, F. A., Assistant Professor of Physics, University of Cincinnati, Cincinnati, O. 1910

MONROE, W. K., Chief Engineer, The Brown Hoisting Machinery Co., Cleveland, O. 1911

MOODY, L. F., Consulting Engineer, Assistant to Vice President, Wm. Cramp & Sons, Ship and Engineering Building Co., Philadelphia, Pa. 1912

MOOMAW, DALTON, Road Engineer, Cuyahoga Co., 1315 Lakeview Road, N. E., Cleveland, O. 1911

MOORE, G. R., Assistant Division Engineer, New Jersey Highway Dept., Manasquan, N. J. 1913

MOORE, H. F., Professor of Engineering Materials, University of Illinois, Urbana, Ill. 1905

MOORE, STANLEY H., 5601 Admiral Boulevard, Seattle, Wash. 1902

MORE, CHAS. C., Professor of Civil Engineering, and Head Civil Engineering Department, University of Washington, Seattle, Wash. 1901

MORECROFT, J. H., Associate Professor of Electrical Engineering, Columbia University, New York, N. Y. 1908

MORRILL, J. B., Manager, Reed Reduction Co., Palo Alto, Calif. ... 1914

MORRIS, C. T., Professor of Structural Engineering, The Ohio State University, Columbus, O. 1907

MORRIS, J. J., Professor of Mechanical Constructive Practice, University of Pennsylvania, Philadelphia, Pa. 1912

MORRISON, I. F., Assistant Professor of Structural Engineering, University of Alberta, Edmonton South, Alta, Canada 1912

MORRISON, ROGER L., Engineer of Tests, Pittsburgh Testing Laboratory, 216 Clark Building, Birmingham, Ala. 1914

MORROW, L. W. W., Assistant Professor of Electrical Engineering, Yale University, New Haven, Conn. 1917

MORSE, J. L., Professor of Mechanical Engineering, Colorado School of Mines, Golden, Colo. 1910

MORSS, EVERETT, 115 Commonwealth Ave., Boston, Mass. 1910

MOSELEY, A. W., Professor of Mechanical Engineering, Lewis Institute, Chicago, Ill. 1907

MOSER, CHAS., Assistant Professor of Mechanics of Materials and Hydraulics, Leland Stanford Jr. University, Stanford University, Calif. 1918

MOSS, S. A., Engineer, Turbine Research Dept., General Electric Co., Lynn, Mass. 1911

MOTT, W. E., Director Division of Science and Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1907

MOYER, J. A., Director of the Dept. of University Extension, Massachusetts Board of Education, Boston, Mass. 1904

MOYLE, M. W., Instructor in Mechanical Engineering, University of Colorado, Boulder, Colo. 1915

MUHLFELD, J. E., Sherbrooke Road, Scarsdale, N. Y. 1911

MUNRO, A. R., Senior Demonstrator in Engineering, University of Queensland, Brisbane, Australia 1913

MUNRO, G. W., Associate Professor of Mechanical Engineering, Purdue University, LaFayette, Ind. 1915

MUNRO, M. S., Assistant Professor of Electrical Engineering, Tufts College, Tufts College, Mass. 1914

MUNROE, G. E., Construction Department, General Electric Co., Schenectady, N. Y. 1907

MUNROE, H. S., Emeritus Professor of Mining, Columbia University, Litchfield, Conn. 1893

MURDOCK, H. E., Agricultural Engineer, Head of Agricultural Engineering Department, University of Montana, Bozeman, Mont. 1910

MURPHY, R. K., Care of P. R. Cole, Syndey Teachers College, Sydney, Australia 1914

MURRAY, D. A., Professor of Applied Mathematics, McGill University, Montreal, Canada 1910

MURRIE, J. L., Consulting Engineer, 74 Broadway, New York, N. Y.

NAGLE, J. C., Professor of Civil Engineering, Dean of Engineering and Director, Engineering Experiment Station, A. & M. College of Texas, College Station, Tex. 1897

NAIDU, A. S., Assistant Engineer, Vizianagram City, Vizagapatam District, Madras, India 1913

NAIDU, K. S., Manager, Samasthanam Engineer's Office, Vizianagram City, Madras, South India 1914

NASH, C. A., Assistant Professor of Electrical Engineering, Armour Institute of Technology, Chicago, Ill. 1913

NEEDY, JOHN A., Professor of Mechanical Engineering, Ohio Northern University, Ada, O. 1919

NEEL, WM. T., Assistant to Supt. of Installation Dept., Philadelphia Electric Co., Philadelphia, Pa. 1914

NEFF, F. H., Professor of Civil Engineering, Case School of Applied Science, Cleveland, O. 1895

NELSON, J. R., Associate Professor of English in the Colleges of Engineering and Architecture, University of Michigan, Ann Arbor, Mich. 1914

NEWCOMB, REXFORD, Assistant Professor of Architectural History, University of Illinois, Urbana, Ill. 1917

NEWCOMBE, J. L., Professor of Civil Engineering, University of Virginia, University, Va. 1915

NEWELL, F. H., Professor of Civil Engineering, University of Illinois, Urbana, Ill. 1915

NEWHALL, A. B., Instructor of Applied Science, Wentworth Institute, Boston, Mass. 1912

NEWKIRK, B. L., Assistant Professor of Mathematics and Mechanics, College of Engineering, University of Minnesota, Minneapolis, Minn. 1908

NEWMAN, C. M., Professor of English and Dean, Academic Dept., Virginia Polytechnic Institute, Blacksburg, Va. 1917

NEWTON, GUY D., Associate Professor of Mechanical Drawing and Machine Design, University of Missouri, Columbia, Mo. 1913

NICHOLS, CHAS. S., Associate Professor of Civil Engineering, in charge of Sanitary Engineering, Iowa State College, Ames, Ia.. 1915

NOLD, H. E., Assistant Professor of Mining Engineering, The Ohio State University, Columbus, O. 1916

NORRIS, EARLE B., Dean of Engineering, Montana State College, University of Montana, Bozeman, Mont. 1907

NORRIS, H. H., Associate Editor, *Electric Railway Journal*, 10th Ave. at 36th St., New York, N. Y. 1900

NORMAN, CARL A., Professor of Machine Design, The Ohio State University, Columbus, O. 1918

NORTHCOTT, J. A., Associate Professor of Mathematics, Syracuse University, Syracuse, N. Y. 1915

NORTON, A. E., Assistant Professor of Mechanical Engineering Drawing, Harvard University, Cambridge, Mass. 1910

NORTON, C. L., Massachusetts Institute of Technology, Cambridge, Mass. 1908

NORWOOD, C. J., Head of Dept. of Mines and Metallurgy College of Engineering, University of Kentucky, Lexington, Ky. 1907

NOTTINGHAM, A. R., Professor of Mechanical Engineering, North Dakota Agricultural College, Agricultural College, N. D. 1910

NUGENT, P. C., Professor of Civil Engineering, Syracuse Univeristy, Syracuse, N. Y. 1914

NYSWANDER, R. E., Professor of Physics, University of Denver, Denver, Colo. 1912

OCKERBLAD, A. M., Examiner of Surveys in the U. S. Dept. of Agriculture, Forest Service, Washington, D. C. 1911

OGLESBY, E. J., Assistant Professor of Mathematics, New York University, New York, N. Y. 1915

OHLE, E. L., Professor of Mechanical Engineering, Washington University, St. Louis, Mo. 1905

OLBRICH, E. R., Assistant Professor of Civil Engineering, Oklahoma A. & M. College, Stillwater, Okla. 1920

OLMSTED, CHAS. T., Instructor in Applied Mechanics and Hydraulics, Case School of Applied Science, Cleveland, O. 1914

OLSEN, TINIUS, President, Tinius Olsen Testing Machine Co., 500 N. 12th St., Philadelphia, Pa. 1907

OLSON, O. A., Assistant Porfessor of Mechanical Engineering, Iowa State College, Ames, Ia. 1915

O'NEILL, J. F., Instructor, Mechanical Engineering Dept., Massachusetts Institute of Technology, Cambridge, Mass. 1912

ORBECK, MARTIN J., Assistant Professor of Descriptive Geometry and Drawing, College of Engineering, University of Michigan, Ann Arbor, Mich. 1920

ORTH, H. D., Assistant Professor of Mechanical Drawing, University of Wisconsin, Madison, Wis. 1910

OSBORN, G. M, Instructor in Sanitary Engineering, West Virginia University, Morgantown, W. Va. 1916

OSBORNE, L. A., Vice-President, Westinghouse Electric & Mfg. Co., 165 Broadway, New York, N. Y. 1911

O'SHAUGHNESSY, LOUIS, Professor of Applied Mathematics, Virginia Polytechnic Institute, Blacksburg, Va. 1912

OSSA, GASTON, Assistant in Physics, Universidad de Chile, Santiago, Chile, S. A. 1911

OSTRANDER, J. E., Professor of Mathematics and Civil Engineering, Massachusetts Agricultural College, Amherst, Mass. 1894

OWENS, R. B., Secretary of The Franklin Institute, Philadelphia, Pa. 1894

OWENS, R. H., Assistant Professor of Practical Mechanics, Purdue University, LaFayette, Ind. 1917

PAINE, ELLERY B., Professor of Electrical Engineering and Acting Head of the Department, University of Illinois, Urbana, Ill... 1911

PAINE, FRANK D., Professor of Electrical Engineering, Iowa State College, Ames, Ia. 1915

PALSGROVE, GRANT K., Assistant Professor of Mechanical Engineering, Rensselaer Polytechnic Institute, Troy, N. Y. 1918

PARCEL, J. I., Professor of Structural Engineering, University of Minnesota, Minneapolis, Minn. 1910

PARKS, C. F., Professor of Mechanism, Director of the Mechanical Laboratories, Director of Lowell Institute School for Industrial

Foremen, Massachusetts Institute of Technology, Cambridge, Mass. 1903

PARK, C. W., Associate Professor of English, University of Cincinnati, Cincinnati, O. 1915

PARKER, J. C., Professor of Electrical Engineering, University of Michigan, Ann Arbor, Mich. 1916

PARKIN, J. H., Lecturer in Mechanical Engineering, University of Toronto, Tornoto, Ontario, Canada 1915

PARKS, C. W., Civil Engineer, United States Navy, Chief of Bureau of Yards and Docks, Washington, D. C. 1911

PARR, S. W., Professor of Applied Chemistry, University of Illinois, Urbana, Ill. 1912

PARSONS, F. M., Professor of Engineering, Whittier College, Whittier, Calif. 1919

PASSANO, L. M., Associate Professor of Mathematics, Massachusetts Institute of Technology, Cambridge, Mass. 1912

PATTEN, W. E., Professor of Civil Engineering, Government Institute of Technology, Shanghai, China 1915

PATTERSON, A. H., Professor of Physics and Dean, School of Applied Science, University of North Carolina, Chapel Hill, N. C. 1919

PATTERSON, L. L., Professor of Electrical Engineering, Supt. of Electrical Science, Mississippi A. & M. College, Agricultural College, Miss. 1915

PAUL, C. E., Professor of Mechanics, Armour Institute of Technology, Chicago, Ill. 1907

PAULL, NORMAN M., Professor of Drawing, University of North Carolina, Chapel Hill, N. C. 1920

PEARCE, C. E., Assistant Professor of Applied Mechanics and Machine Design, Kansas State Agricultural College, Manhattan, Kans. 1917

PEARSON, R. A., President, Iowa State College, Ames, Ia. 1914

PEGRAM, GEORGE B., Dean, School of Mines, Engineering and Chemistry, Professor of Physics, Columbia University, New York, N. Y. 1918

PEHRSON, E. W., Assistant Professor of Mathematics, University of Utah, Salt Lake City, Utah 1915

PENCE, W. D., Member, Engineering Board, Interstate Commerce Commission, Chicago, Ill. 1895

PENDER, HAROLD, Professor-in-charge, Electrical Engineering, University of Pennsylvania, Philadelphia, Pa. 1909

PENN, J. C., Assistant Professor of Civil Engineering, Armour Institute of Technology, Chicago, Ill. 1915

PERRY, C. F., Supervisor of Manual and Industrial Training, Milwaukee Public Schools, Milwaukee, Wis. 1907

PERRY, F. G., 44 Winslow Road, Brookline, Mass. 1916
PERRY, W. G., Associate Professor of English, Georgia School of Technology, Atlanta, Ga. 1919
PERRY, W. H., Instructor in Applied Science, Wentworth Institute, Boston, Mass. 1913
PERRY, WILLIAM S., Assistant Professor of Physics and Electrical Engineering, University of Florida, Gainesville, Fla. 1918
PERSON, F. G., Professor of Physics, Head, Dept. of Physics and Electrical Engineering, State Agricultural College, Fort Collins, Colo. 1918
PETTEE, C. H., Dean, New Hampshire College, Durham, N. H. 1898
PFEIF, G. H., Secretary, Student Committee, General Electric Co., Schenectady, N. Y. 1918
PHALEN, HAROLD R., Assistant Professor of Mathematics, Armour Institute of Technology, Chicago, Ill. 1914
PHELON, J. O., Professor of Electrical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1902
PHELPS, HOWARD E., Professor of Highway Engineering, State College of Washington, Pullman, Wash. 1914
PHILBRICK, H. S., Professor of Mechanical Engineering, Northwestern University, Evanston, Ill. 1913
PHILLIPS, E. B., Instructor in Electrical Engineering, Georgia School of Technology, Atlanta, Ga. 1919
PHILLIPS, J. D., Assistant Dean, College of Engineering, and Professor of Drawing, University of Wisconsin, Madison, Wis. ... 1899
PICKELS, G. W. JR., Assistant Professor of Civil Engineering, University of Illinois, Urbana, Ill. 1910
PINNEY, J. C. JR., Dean, College of Applied Science and Engineering, Marquette Unversity, Milwaukee, Wis. 1919
PINTO, ANTHONY, Assistant Professor of Electrical Engineering, Cooper Union, New York, N. Y. 1913
PIPER, FRED. F., Instructor in Electrical Engineering, Mechanics Institute, Rochester, N. Y. 1915
PLANT, L. C., Head of the Department of Mathematics, Michigan Agricultural College, East Lansing, Mich. 1914
PLUEDDEMANN, R. O., Associate Professor of Co-ops., Georgia School of Technology, Atlanta, Ga. 1919
POND, FRANCIS J., Professor of Chemistry and Director of Chemical Laboratory, Stevens Institute of Technology, Hoboken, N. J.. 1912
POND, G. G., Dean of the School of Natural Science, The Pennsylvania State College, State College, Pa. 1914
POOLE, CECIL P., Consulting Engineer, P. O. Box 774, Atlanta, Ga.. 1907
POORMAN, A. P., Assistant Professor of Applied Mechanics, Purdue University, LaFayette, Ind. 1907

PORTER, CHAS. T., Aeronautical Mechanical Engineer, Naval Aircraft Factory, Philadelphia, Pa. 1912
PORTER, DWIGHT, Professor of Hydraulic and Sanitary Engineering, Massachusetts Institute of Technology, Cambridge, Mass.. 1893
PORTER, F. M., Associate in Engineering Drawing, University of Illinois, Urbana, Ill. 1912
PORTER, H. E., Assistant Professor of Mathematics, Kansas State Agricultural College, Manhattan, Kans. 1915
PORTER, J. B., Professor of Mining Engineering, McGill University, Montreal, Quebec, Canada 1904
PORTER, J. F., President, Kansas City Power & Light Co., Kansas City, Mo. 1912
PORTER, J. MADISON, Consulting Engineer, Easton, Pa. 1893
PORTER, R. A., Professor of Physics, Syracuse University, Syracuse, N. Y. 1908
PORTER, R. H., Professor of Mechanical Engineering, New Hampshire College, Durham, N. H. 1915
POTTER, A. A., Professor of Steam and Gas Engineering and Dean of the Engineering Division, Kansas State Agricultural College, Manhattan, Kans. 1908
POTTER, JOHN C., 257 Maple Ave., Oak Park, Ill. 1913
POUND, J. H., Assistant Professor of Mechanical Engineering, Rice Institute, Houston, Tex. 1916
POWERS, W. P., Instructor in Electrical Engineering, Pratt Institute, Brooklyn, N. Y. 1914
PRATT, J. A., Director, Williamson Free School of Mechanical Trades, Delaware Co., Pa. 1908
PRENTICE, D. B., Head of Mechanical Engineering Department, Lafayette College, Easton, Pa. 1912
PRESS, ABRAHAM, Assistant Professor of Electrical Engineering, University of California, Berkeley, Calif. 1916
PRICE, CHAS. B., Instructor in Mathematics and Drawing, Boys Trade School; Assistant Supervisor of Evening Trade School, Worcester Trade School, Worcester, Mass. 1914
PRIESTER, GEORGE C., Assistant Professor of Mathematics and Mechanics, University of Minnesota, Minneapolis, Minn. 1920
PRIME, A. C., Consulting Engineer, 1008 Spruce St., Philadelphia, Pa. (Life Member) 1910
PRINE, CHARLES W., Instructor in Physics, Carnegie Institute of Technology, Pittsburgh, Pa. 1918
PRITCHARD, S. R., Dean of Engineering and Professor of Electrical Engineering, Virginia Polytechnic Institute, Blacksburg, Va... 1914
PROBERT, F. H., Professor of Mining, University of California, Berkeley, Calif. 1917

PROVINE, LORING H., Professor of Architectural Engineering, in charge of Dept. of Architecture, University of Illinois, Urbana, Ill. 1920

PRYOR, F. L., Professor of Mechanical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1908

PULLEN, M. W., Instructor in Electrical Engineering, Johns Hopkins University, Baltimore, Md. 1909

PURYEAR, CHARLES, Dean and Professor of Mathematics, Texas A. and M. College, College Station, Texas 1901

PUTNAM, WM. J., Associate in Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1918

RABER, B. F., Professor of Mechanical Engineering, University of California, Berkeley, and Power Engineer, the Filtration Commission, Sacramento, Calif. 1915

RADEBAUGH, GUSTAV H., Associate in Factory Management and Machine Shop Practice, Assistant Manager, Shop Laboratories, University of Illinois, Urbana, Ill. 1914

RALSTON, J. C., Consulting Engineer, also Vice-President and Consulting Engineer, Pacific Coast Pipe Co. of Seattle, 2421 W. Mission Ave., Spokane, Wash. 1910

RANDALL, J. A., Room 91 Virginia Building, 18th Virginia Ave., Washington, D. C. 1911

RANDOLPH, L. S., Consulting Engineer, Grovans, Baltimore, Md..... 1894

RANDOLPH, OSCAR A., Associate Professor of Physics, University of Colorado, Boulder, Colo. 1917

RANKIN, F. J., Electrical Engineer, Public Utilities Commission, Capitol Bldg., Denver, Colo. 1913

RAPPEL, U. J., Professor of Electrical Engineering, St. Mary College, Dayton, O. 1919

RASMUSEN, J. E., Associate Professor of Applied Mechanics and Machine Design, Universtiy of Nebraska, Lincoln, Nebr. 1910

RATH, EDWIN R., Instructor in Electrical Engineering, University of Pittsburgh, Pittsburgh, Pa. 1919

RAYMOND, F. N., Associate Professor of Rhetoric, University of Kansas, Lawrence, Kans. 1910

RAYMOND, H. M., Dean, Engineering Studies, Armour Institute of Technology, Chicago, Ill. 1903

RAYMOND, W. G., Dean of the College of Applied Science and Professor of Civil Engineering, State University of Iowa, Iowa City, Ia. 1893

RAYNER, WM. H., Assistant Professor of Surveying, University of Illinois, Urbana, Ill. 1913

REBER, LOUIS E., Dean, University Extension Division, University of Wisconsin, Madison, Wis. 1893

REED, K. W., In charge of the Experimental and Research Dept., The Warner & Swasey Co., Cleveland, O. 1915

REED, PERCY L., Senior Instructor in Civil Engineering, Drexel Institute, Philadelphia, Pa. 1914

REID, CLARENCE E., Professor of Electrical Engineering, Kansas State Agricultural College, Manhattan, Kans. 1907

REMICK, B. L., Professor of Mathematics, Kansas State Agricultural College, Manhattan, Kans. 1915

REW, IRWIN, Trustee of Northwestern University, 108 LaSalle St., Chicago, Ill. 1913

REYBOLD, EUGENE, Colonel, Coast Artillery, Commandant, Coast Artillery School, Fort Monroe, Va. 1919

REYNOLDS, JOSEPH B., Assistant Professor of Mathematics and Astronomy, Lehigh University, Bethlehem, Pa. 1920

RICE, HARRIS, Assistant Professor of Mathematics, Tufts College, Tufts College, Mass. 1919

RICE, H. A., Professor of Mechanics and Structural Engineering, University of Kansas, Lawrence, Kans. 1915

RICE, LEPINE H., Instructor in Mathematics, Massachuestts Institute of Technology, Cambridge, Mass. 1918

RICHARDS, C. RUSS, Dean, College of Engineering, Director, Engineering Experiment Station and Professor of Mechanical Engineering, University of Illinois, Urbana, Ill. 1895

RICHARDS, CHAS. RUSSELL, Director, Cooper Union, New York, N. Y. 1904

RICHARDS, T. E., Instructor, Michigan College of Mines, Houghton, Mich. 1910

RICHARDS, WM. H., Instructor in Manual Training and Pattern Making, University of Minnesota, Minneapolis, Minn. 1910

RICHARDSON, G. R., Instructor in Steam Engineering, Franklin Union, Boston, Mass. 1912

RICHARDSON, M. R., Durham, N. C. 1910

RICHEY, J. J., Professor of Structural Engineering, Texas A. & M. College, College Station, Tex. 1910

RICHTER, A. W., Dean of the College of Engineering, University of Montana, Bozeman, Mont. 1804

RICHTMYER, F. K., Professor of Physics, Cornell Universtiy, Ithaca, N. Y. 1910

RICKER, N. C., Emeritus Professor of Architecture, University of Illinois, Urbana, Ill. 1894

RIDDERVOLD, A. S., Structural Designer for Schmidt, Garden & Martin, Architects, Chicago, Ill. 1912

RIESENBERGER, ADAM, Registrar and Treasurer, Stevens Institute of Technology, Hoboken, N. J. 1908

RIETZ, HENRY LEWIS, Professor and Head of Department of Mathematics, The Iowa State University, Iowa City, Ia. 1919
RIGGS, H. E., Professor of Civil Engineering, University of Michigan, Ann Arbor, Mich. 1913
RIGGS, N. C., Professor of Applied Mechanics, Carnegie Institute of Technology, Pittsburgh, Pa. 1907
RIGGS, W. M., President and Consulting Professor of Engineering, Clemson Agricultural College of South Carolina, Clemson College, S. C. 1897
RILLIET, CHARLES E., Care of Washburne Continuation School, 655 W. 14th St., Chicago, Ill. 1919
RISLEY, W. J., Professor of Mathematics, James Millikin University, Decatur, Ill. 1910
RITTENHOUSE, L. H., Associate Professor of Electrical Engineering, Haverford College, Haverford, Pa. 1906
ROARK, RAYMOND J., Associate Professor of Mechanics and Hydraulics, State University of Iowa, Iowa City, Ia. 1919
ROBBINS, A. G., Professor of Topographical Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1894
ROBERT, J. H., Instructor in Applied Mechanics and Machine Design, Kansas State Agricultural College, Manhattan, Kans. ... 1917
ROBERTS, EMERSON B., Educational Dept., Westinghouse E. & M. Co., East Pittsburgh, Pa. 1919
ROBERTS, MILNOR, Dean of the College of Mines, and Professor of Mining Engineering and Metallurgy, University of Washington, Seattle, Wash. 1910
ROBERTS, W. J., Chief Engineer, Inter-County River Improvement, 401 Court House, Tacoma, Wash. 1910
ROBERTSON, J. E., Head, Graphics Department, Colorado College, Colorado Springs, Colo. 1913
ROBERTSON, JOHN E., County Road Engineer of Shelby County, Shelbyville, Ky. 1914
ROBINSON, EDW., Professor of Mechanical Engineering, University of Vermont, Burlington, Vt. 1899
ROBINSON, M. B., Professor of Mechanical Engineering University of Akron, Akron, O. 1915
ROCKWELL, E. H., Professor of Civil Engineering, Tufts College, Tufts College, Mass. 1907
ROCKWELL, ROBERT L., Consulting Engineer, Suite 955 Empire Building, Seattle, Wash. 1915
RODHOUSE, T. J., Professor of Hydraulic Engineering, University of Missouri, Columbia, Mo. 1904
RODMAN, W. S., Professor of Electrical Engineering, University of Virginia, University, Va. 1915

ROE, J. W., Assistant Professor of Mechanical Engineering, Yale University, New Haven, Conn. 1908

ROGERS, C. E., Professor of Civil Engineering, Trinity College, Hartford, Conn. 1917

ROGERS, H. S., Instructor in Civil Engineering, University of Washington, Seattle, Wash. 1917

ROHRER, A. L., Electrical Superintendent, Schenectady Works, General Electric Co., Schenectady, N. Y. 1911

ROLLINS, E. B., Assistant Professor of Electrical Engineering, Tufts College, Tufts College, Mass. 1912

RONDINELLA, L. F., Head of Department of Drawing and Design, West Philadelphia High School for Boys, Philadelphia, Pa..... 1903

ROOD, JAS. T., Professor of Railway Electrical Engineering, University of Illinois, Urbana, Ill. 1914

ROOT, R. E., Professor of Mathematics, Post-Graduate Dept., U. S. Naval Academy, Annapolis, Md. 1914

RORTY, M. C., Chief Statistican American Telephone & Telegraph Co., 195 Broadway, New York, N. Y. 1912

ROSEBRUGH, T. R., Professor of Electrical Engineering, University of Toronto, Toronto Ontario, Canada. 1896

ROSING, ANTON S., Civil Engineer, 7229 North Robey St., Chicago, Ill. 1911

ROWE, WATER E., Major Professor of Civil Engineering, Drexel Institute, Philadelphia, Pa. 1918

ROWELL, L. D., Associate Professor of Electrical Engineering, Purdue University, LaFayette, Ind. 1910

ROWLAND, ARTHUR J., The Milwaukee Electric Railway & Light Co., Milwaukee, Wis. 1903

ROWLEY, F. B., Associate Professor of Mechanical Engineering; Director, Experimental Engineering Laboratories, University of Minnesota, Minneapolis, Minn. 1910

ROYS, F. W., Assistant Professor, Mechanical Engineering, Worcester Polytechnic Institute, Worcester, Mass. 1914

RUBENKOENIG, HARRY, Assistant Professor of Railway Mechanical Engineering, Purdue University, LaFayette, Ind. 1920

RUBEY, H. K., Assistant Professor of Civil Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1917

RUNK, JOHN C., Instructor in Mechanical Engineering, Pennsylvania State College, State College, Pa. 1920

RUNNING, THEODORE R., Associate Professor of Mathematics, University of Michigan, Ann Arbor, Mich. 1918

RUSH, HARRY S., Professor of Electrical Engineering, North Dakota State School of Science, Wahpeton, N. D. 1919

RUSK, W. W., Instructor in Civil Engineering, University of Colorado, Boulder, Colo. 1917
RUSSELL, W. B., Director, Franklin Union, Boston, Mass. 1903
RYAN, H. J., Professor of Electrical Engineering, Leland Stanford Junior University, Stanford University, Calif. 1901
RYAN, W. T., Associate Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1911
SADLER, H. C., Professor of Naval Architecture and Marine Engineering, University of Michigan, Ann Arbor, Mich. 1907
SALAZAR, ARTURO EDMONDO, Professor of Applied Physics and Electrical Engineering, Universidad de Chile, Santiago de Chile, S. A. 1914
SANBORN, FRANK E., U. S. A. General Hospital, Oteen, N. C. 1899
SANDERS, W. H., Assistant Professor and Acting Head of Farm Engineering, Kansas State Agricultural College, Manhattan, Kans. 1915
SARASON, SAMUEL D., Assistant Professor of Civil Engineering, L. C. Smith College of Applied Science, Syracuse University, N. Y. 1918
SAVANT, D. P., 28 Mellen St., Cambridge, Mass. 1917
SAVILLE, THORNDIKE, Associate Professor of Sanitary Engineering, University of North Carolina, Chapel Hill, N. C. 1915
SAYRE, M. F., Assistant Professor of Applied Mechanics, Union College, Schenectady, N. Y. 1917
SCARBOROUGH, J. B., Instructor in Mathematics, U. S. Naval Academy, Annapolis, Md. 1915
SCHEALER, S. R., Assistant Professor of Electrical Engineering, Lehigh University, Bethlehem, Pa. 1911
SCHMIDT, EDWARD C., Mechanical Engineer, North American Co., Room 804 Union Electric Bldg., 12th & Locust Sts., St. Louis, Mo. 1907
SCHNEIDER, HERMAN, Professor of Civil Engineering and Dean of the College of Engineering, University of Cincinnati, Cincinnati, O. 1903
SCHRODER, FREDERICK F., Instructor in Civil Engineering, University of Cincinnati, Cincinnati, O. 1919
SCHUERMAN, W. H., Dean of the School of Engineering and Professor of Pure and Applied Mathematics, Vanderbilt University, Nashville, Tenn. 1895
SCHWARZE, C. T., Assistant Professor of Civil Engineering, Cooper Union, New York, N. Y. 1912
SCIPIO, L. A., Dean and Professor of Mechanical Engineering, Robert College, Constantinople, Turkey 1910

SCOTT, C. F., Professor of Electrical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn. 1904

SCOTT, LUTHER C., Assistant Professor of Industrial Education, Toledo University, Toledo, O. 1919

SCULLEN, A. J., Associate Professor of Civil Engineering, In charge of Dept. of Civil Engineering, Catholic University of America, Washington, D. C. 1916

SEARSON, J. W., Professor of English, Kansas State Agricultural College, Manhattan, Kans. 1915

SEATON, R. A., Professor of Applied Mechanics and Machine Design, Kansas State Agricultural College, Manhattan, Kans..... 1912

SEAVER, H. L., Associate Professor of English, Massachusetts Institute of Technology, Cambridge, Mass. 1908

SEAVEY, FRANK E., Professor of English, Tufts College, Tufts College, Mass. 1919

SEELY, F. B., Associate Professor of Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1913

SEERY, FRANCIS J., Professor of Civil Engineering, Cornell University, Ithaca, N. Y. 1908

SELBY, L. B., Inspector, Ohio Inspection Bureau, Akron, O. 1911

SEWARD, H. L., Assistant Professor of Mechanical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn.. 1910

SEXTON, F. H., President of the Nova Scotia Technical College, and Director of Technical Education, Vocational Officer for Quebec and Maritime Provinces of the Dept. Soldiers Civil Re-establishment, Halifax, Nova Scotia 1908

SEYFERT, S. S., Associate Professor of Electrical Engineering, Lehigh University, Bethlehem, Pa. 1908

SHAAD, G. C., Professor of Electrical Engineering, University of Kansas, Lawrence, Kans. 1907

SHANE, ADOLPH, Dean of Engineering and Professor of Electrical Engineering, Des Moines College, Des Moines, Ia. 1907

SHANK, JACOB R., Assistant Professor of Civil Engineering, The Ohio State University, Columbus, O. 1919

SHATTUCK, E. L., Professor of Applied Mechanics and Thermodynamics, Louisiana Industrial Institute, Ruston, La. 1914

SHATTUCK, H. B., Associate Professor of Railroad Engineering, Pennsylvania State College, State College, Pa. 1906

SHAW, H. B., Educational Director, Doherty Training Schools, Toledo, Denver, Bartlesville and Titusville, 60 Wall St., New York, N. Y. 1907

SHEEHAN, THOMAS W., Instructor in English, Tufts College, Tufts College, Mass. 1919

SHELDON, SAMUEL, Professor of Physics and Electrical Engineering, Polytechnic Institute of Brooklyn, Brooklyn, N. Y. 1903
SHELDON, S. R., Dean and Professor of Electrical Engineering, Government Institute of Technology, Shanghai, China 1914
SHENEHON, FRANCIS C., Consulting Hydraulic Engineer, 628 Metropolitan Bank Bldg., Minneapolis, Minn. 1909
SHEPARDSON, G. D., Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1895
SHEPARDSON, J. E., Instructor in Electrical Engineering, The Ohio State University, Columbus, O. 1917
SHEPPARD, H. S., Dept. of Development & Research, American Telephone & Telegraph Co., 195 Broadway, New York, N. Y..... 1914
SHERMAN, C. E., Professor of Civil Engineering, Ohio State University, Columbus, Ohio 1907
SHIPLEY, S. C., Associate Professor of Mechanical Engineering, and Superintendent of Shops, University of Minnesota, Minneapolis, Minn. 1908
SHOOP, C. F., Associate Professor of Mechanical Engineering, University of Minnesota, Minneapolis, Minn. 1906
SHORT, R. L., Director of High Schools, Lakewood, O. 1902
SHUSTER, J. W., Assistant Professor of Electrical Engineering, University of Wisconsin, Madison, Wis. 1907
SHUTT, J. C., 187 Auburn Ave., Buffalo, N. Y. 1914
SIBLEY, F. H., Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1910
SILVEY, O. W., Professor of Physics, A. & M. College of Texas, College Station, Tex. 1917
SIMMERING, S. L., Associate Professor of Mechanical Engineering, University of Colorado, Boulder, Colo. 1913
SIMS, STUART, Professor and Head of Civil Engineering, School of Engineering, Oregon State Agricultural College, Corvallis, Ore. 1919
SJOGREN, OSCAR W., Professor of Agricultural Engineering, University of Nebraska, Lincoln, Nebr. 1917
SKELTON, R. H., Professor of Civil Enigneering, Pei-Yang University, Tientsin, China 1914
SKILES, W. V., Associate Professor of Mathematics, Georgia School of Technology, Atlanta, Ga. 1919
SLAGLE, W. C. H., Assistant Professor, University of Pennsylvania, Philadelphia, Pa. 1917
SLAYMAKER, P. K., Professor of Machine Design, University of Nebraska, Lincoln, Neb. 1910
SLEESMAN, L. C., Professor of Chemical Engineering, Ohio Northern University, Ada, O. 1917

SLICHTER, C. S., Professor of Applied Mathematics, University of Wisconsin; Consulting Engineer, Madison, Wis. 1906
SLICHTER, W. I., Professor of Electrical Engineering, Columbia University, New York, N. Y. 1911
SLOCUM, R. H., Professor of Civil Engineering, North Dakota Agricultural College, Agricultural College, N. D. 1903
SLOCUM, STEPHEN E., Professor of Applied Mathematics, University of Cincinnati, Cincinnati, O. 1919
SLUSS, A. H., Associate Professor of Mechanical Engineering, University of Kansas, Lawrence, Kans. 1915
SMITH, ARTHUR BESSEY, Electrical Engineer, The Automatic Electric Co., Chicago, Ill. 1911
SMITH, A. L., Professor of Drawing and Machine Design, Worcester Polytechnic Institute, Worcester, Mass. 1902
SMITH, H. B., Professor of Electrical Engineering, and Director of Electrical Engineering Dept., Worcester Polytechnic Institute, Worcester, Mass. 1898
SMITH, HARRY E., Professor of Steam Engineering, Texas A. & M. College, College Station, Tex. 1895
SMITH, H. S. S., Professor of Civil Engineering, Princeton University, Princeton, N. J. 1894
SMITH, JAMES E., Assistant Professor of Civil Engineering, University of Illinois, Urbana, Ill. 1910
SMITH, J. HAMMOND, Professor of Civil Engineering, University of Pittsburgh, Pittsburgh, Pa. 1910
SMITH, L. S., Professor of Topographic and Highway Engineering, University of Wisconsin, Madison, Wis. 1903
SMITH, P. F., Professor of Mathematics, Sheffield Scientific School, Yale University, New Haven, Conn. 1908
SMITH, RICHARD R., Manager, College Department, The Macmillan Company, 66 Fifth Ave., New York, N. Y. 1914
SMITH, S. A., Assistant Professor in Dept. of Architecture, Kanses State Agricultural College, Manhattan, Kans. 1914
SMITH, THOMAS D., Assistant Professor of Civil Engineering, University of Florida, Gainesville, Fla. 1920
SMOLEY, C. K., Civil and Structural Engineer, International Textbook Co., Scranton, Pa. 1913
SMULL, T. J., JR., Executive Secretary, Ohio Northern University, Ada. O. 1907
SMYTH, H. L., Professor of Mining and Metallurgy and Director of the Mining and Metallurgical Laboratory, Harvard University, Cambridge, Mass. 1907
SNADER, DAVID L., Dickson, Tenn. 1918

SNAVELY, T. R., Fellow of the Phelps Stokes Foundation, University of Virginia, University, Va. 1916
SNOW, CHAS. H., Dean of School of Applied Science and Professor of Civil Engineering, New York University, New York, N. Y... 1895
SNOW, WALTER B., Publicity Engineer, 136 Federal St., Boston, Mass. 1899
SOLBERG, H. C., Professor of Mechanical Engineering, South Dakota State College of A. and M. Arts, Brookings, S. D. 1894
SORENSEN, R. W., Professor of Electrical Engineering, Throop College of Technology, Pasadena, Calif. 1912
SPALDING, F. P., Professor of Civil Engineering, University of Missouri, Columbia, Mo. 1893
SPANDAU, HARRY M., Assistant Professor of Engineering Drawing, LaFayette College, Easton, Pa. 1918
SPEIRS, CHAS. E., Vice-President, D. Van Nostrand Company, Publishers, 25 Park Place, New York, N. Y. 1914
SPENCER, F. A., Professor of Electrical Engineering in charge of Dept., Norwich University, Northfield, Vt. 1920
SPERR, F. W., Professor of Civil and Mining Engineering, Michigan College of Mines, Houghton, Mich. 1896
SPERRY, C. S., Professor of Engineering Mathematics, University of Colorado, Boulder, Colo. 1914
SPINNEY, L. B., Professor of Physics, Iowa State College, Ames, Ia. 1899
SPOFFORD, C. M., Hayward Professor of Civil Engineerrng, Massachusetts Institute of Technology, Cambridge, Mass. 1901
SPOONER, H. J., Director and Professor of Mechanical and Civil Engineering, Polytechnic School of Engineering, Regent St., W., London, England 1912
SPRAGUE, EMBERT H., Associate Professor of Civil Engineering, University of Maine, Orono, Me. 1918
SPRAGUE, F. J., President, Sprague Safety Control and Signal Corporation, 165 Broadway, New York, N. Y. 1911
SPRINGER, F. W., Professor of Electrical Engineering, University of Minnesota, Minneapolis, Minn. 1896
SPRINGER, G. P., Assistant Engineer Construction Division, War Dept., Washington, D. C. 1917
ST. JOHN, E. R., Designing Engineer, American Bridge Co., Pittsburgh, Pa. 1916
STANFORD, J. V., Professor of Mechanical Engineering, University of Pennsylvania, Philadelphia, Pa. 1907
STANLEY, WM. E., Resident Engineer South Charleston Sewer Construction, Charleston, W. Va. 1915
STANTON, CHAS. B., Associate Professor of Railway Engineering, Carnegie Institute of Technology, Pittsburgh, Pa. 1915

STARBUCK, ARWARD, Assistant Professor of English, Iowa State College, Ames, Ia. 1919
STAVLEY, EARL B., Assistant Professor of Electrical Engineering, The Pennsylvania State College, State College, Pa. 1920
STEELE, J. N., Instructor in Foundry Work, Dickinson High School, Jersey City, N. J. 1912
STEINBERG, SAMUEL S., Assistant Professor of Civil Engineering, Maryland State College, College Park, Md. 1920
STEINMAN, D. B., Professor in charge of Civil and Mechanical Engineering, College of the City of New York, New York, N. Y. 1910
STELZNER, W. B, Professor of Electrical Engineering, University of Arkansas, Fayetteville, Ark. 1914
STEPHENSON, S. A., JR., Associate Professor of Civil Engineering, Rutgers College, New Brunswick, N. J. 1910
STEVENS, A. C., General Electric Co., Pittsfield, Mass. 1912
STEVENS, E. F., Librarian, Pratt Institute Free Library, and Director, School of Library Science, Brooklyn, N. Y. 1908
STEVENS, F. H., Assistant Professor Engineering Mechanics, College of Engineering, University of Michigan, Ann Arbor, Mich. 1915
STEWARD, R. K., Professor of Drawing and Design, Michigan Agricultural College, East Lansing, Mich. 1910
STEWART, G. W., Professor of Physics, State University of Iowa, Iowa City, Ia. 1910
STEWART, L. B., Professor of Surveying and Geodesy, Faculty of Applied Science and Engineering, Toronto University, Toronto, Ontario, Canada 1897
STEWART, O. M., Professor of Physics, University of Missouri, Columbia, Mo. 1909
STILLWELL, L. B., Consulting Engineer, 100 Broadway, New York, N. Y. 1912
STIVERS, E. R., Instructor in Civil Engineering, University of Florida, Gainesville, Fla.. 1917
STOCKWELL, F. C., Assistant Professor of Electrical Engineering, Stevens Institute of Technology, Hoboken, N. J. 1914
STOEK, H. H., Professor of Mining Engineering, University of Illinois, Urbana, Ill. 1907
STONE, CHAS. W., Manager of Lighting Dept., General Electric Co., Schenectady, N. Y. 1911
STONE, E. A., Consulting Engineer, Ottawa, Ontario 1907
STONE, JULIUS F., Care of Seagrave Co., Columbus, O. 1913
STORM, E. R., Architect, 280 Fourth Ave., New York, N. Y. 1908

STOUT, O. V. P., Dean of the College of Engineering and Professor of Civil Engineering, University of Nebraska, Lincoln, Neb. 1894

STRATTON, LEON D., Head, Chemical Dept., Drexel Institute, Philadelphia, Pa. 1920

STRAW, J. B., Chief Engineer, The William Gordon Corporation, Philadelphia, Pa. 1915

STRONG, ALBERT J., Instructor in Machine Design and Supt. of Shops, University of Florida, Gainesville, Fla. 1913

STRONG, R. K., Professor of Chemical Engineering, Oregon Agricultural College, Corvallis, Ore. 1918

STREETER, R. L., 2400 Oliver Building, Pittsburgh, Pa. 1913

STURGES, T. L., JR., Professor of Electrical Engineering, Delaware College, Newark, Del. 1910

STYER, CHARLES A., Assistant Professor of Electrical Engineering, Post Graduate Dept., U. S. Naval Academy, Annapolis, Md... 1918

SULLIVAN, GEO. L., Professor of Mechanical Engineering, University of Santa Clara, Santa Clara, Calif. 1912

SUMMEY, GEORGE JR., Associate Professor of English, North Carolina State College of A. & E., West Raleigh, N. C. 1919

SURVEYER, ARTHUR, Consulting Engineer; Member, Board of Directors, Ecole Polytechnic de Montreal, Montreal, P. Q., Canada 1914

SUTHERLAND, HALE, Assistant Professor of Structural Engineering, Massachusetts Institute of Technology, Cambridge, Mass. 1914

SUTTIE, R. H., Assistant Professor of Civil Engineering, Yale University, New Haven, Conn. 1912

SVENSON, C. L., Assistant Professor of Engineering Drawing, The Ohio State University; Prop., Ohio Technical Drawing School, Columbus, O. 1900

SWAIM, VERNE F., Head, Department of Physics, Bradley Polytechnic Institute, Peoria, Ill. 1919

SWAIN, G. F., Professor of Civil Engineering, Harvard University, Cambridge, Mass. 1893

SWAMY, B. N., Overseer, Town and Water Works, Berhambere, Guajam, Madras, South India 1913

SWARTZEL, K. D., Professor of Mathematics, The Ohio State University, Columbus, O. 1910

SWEETSER, E. O., Associate Professor of Civil Engineering, Washington University, St. Louis, Mo. 1910

SWEETSER, W. J., Professor of Mechanical Engineering, University of Maine, Orono, Me. 1910

SWIFT, WALTER, Secretary, Department of Applied Science, University of Sheffield, Sheffield, England 1902

SYPHERD, W. O., Professor of English, Delaware College, Newark, Del. 1914

TALBOT, ARTHUR N., Professor of Municipal and Sanitary Engineering, and in charge of Theoretical and Applied Mechanics, University of Illinois, Urbana, Ill. 1893

TALBOT, H. P., Professor of Inorganic Chemistry, Massachusetts Institute of Technology, Cambridge, Mass. 1902

TANZER, E., Dean, Assistant Professor of Electrical Engineering, Georgia School of Technology, Atlanta, Ga. 1915

TAYLOR, KNOX, President, Taylor-Wharton Iron & Steel Co., High Bridge, N. J. 1916

TAYLOR, T. U., Professor of Civil Engineering and Dean of Engineering Department, University of Texas, Austin, Texas 1902

TAYLOR, W. C., Assistant Professor of Civil Engineering, Union University, Schenectady, N. Y. 1913

TAYLOR, WM. E., Professor of Applied Mathematics and Head of Dept., College of Applied Science, Syracuse University, Syracuse, N. Y. 1913

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TEMPLE, W. E. S., Consulting Engineer, Swarthmore, Pa. 1912

TERRELL, DANIEL V., Professor of Civil Engineering, University of Kentucky, Lexington, Ky. 1917

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WIGLEY, W. R., 89 Bruce Avenue, Yonkers, N. Y. 1915
WILEY, RALPH B., Professor of Sanitary Engineering, Purdue University, LaFayette, Ind. 1920
WILEY, W. O., Publisher of Scientific Books, Treasurer, John Wiley & Sons, Inc., New York, N. Y. 1904
WILLIAMS, C. C., Professor of Civil Engineering, University of Kansas, Lawrence, Kans. 1909
WILLIAMS, J. P. J., Associate Editor, Engineering News-Record, New York, N. Y. 1919

WILLIAMS, O. E., Assistant Professor of Engineering Drawing, The Ohio State University, Columbus, O. 1910

WILLIAMS, S. N., Professor Emeritus of Civil and Sanitary Engineering, Cornell College, 734 N. Fairoaks Ave., Oak Park, Ill. 1893

WILLIAMS, W. S., Professor of Topographical Engineering, University of Missouri, Columbia, Mo. 1913

WILLIAMSON, CHARLES O., Instructor in Applied Mathematics, College of Wooster, Wooster, O. 1919

WILLIS, A. J., Brookings County Highway Engineer, Brookings, S. D. 1912

WILLISTON, ARTHUR L., Principal, Wentworth Institute, Boston, Mass. 1897

WILLS, C. F., Director, Arizona State Bureau of Mines, Tucson, Ariz. 1917

WILLSON, F. G., Head of Dept. of Applied Electricity, Wentworth Institute, Boston, Mass. 1912

WILLSON, F. N., Professor of Graphics, Princeton University, Princeton, N. J. 1913

WILMORE, J. J., Dean, School of Engineering, and Professor of Mechanical Engineering, Alabama Polytechnic Institute, Auburn, Ala. 1894

WILMOT, SYDNEY, Assistant Professor of Civil Engineering, Brown University, Providence, R. I. 1919

WILSON, A. M., Professor of Electrical Engineering, University of Cincinnati, Cincinnati, O. 1907

WILSON, GEO. S., Associate Professor of Mechanical Engineering, University of Washington, Seattle, Wash. 1912

WILSON, JOHN F., Professor of Electrical and Mechanical Engineering, University of Southern California, Los Angeles, Calif. .. 1913

WILSON, W. L., Professor of Railroad Engineering, Lehigh University, Bethlehem, Pa. 1909

WILSON, WILBUR M., Associate Professor of Structural Engineering, University of Illinois, Urbana, Ill. 1914

WING, FRANCIS H., Supervisor of Industrial Education, Buffalo Public Schools, Buffalo, N. Y. 1919

WING, S. R., Professor of Mechanical and Electrical Engineering, Pennsylvania College, Gettysburg, Pa. 1914

WINSLOW, A. E., Professor of Civil Engineering, Norwich University, Northfield, Vt. 1914

WINSLOW, A. M., Dept. of Mechanical Engineering, University of Washington, Seattle, Wash. 1918

WINTER, J. W., Instructor in Mechanical Engineering, Drexel Institute, Philadelphia, Pa. 1914

WIRICK, C. M., Junior College of Crane Technical High School, Chicago, Ill. 1914
WITHAM, R. L., Assistant Engineer, Sperry Gyroscope Co., Manhattan Bridge Plaza, Brooklyn, N. Y. 1914
WITHEY, M. O., Associate Professor of Mechanics, University of Wisconsin, Madison, Wis. 1910
WITHROW, JAMES R., Professor of Chemistry, Ohio State University, Columbus, O. 1907
WITTIG, GUSTAV F., Assistant Professor of Electrical Engineering, Yale University, New Haven, Conn. 1919
WOHLENBERG, W. J., Assistant Professor of Mechanical Engineering, Sheffield Scientific School, Yale University, New Haven, Conn. 1917
WOLF, HARRY J., 65 West 44th St., New York, N. Y. 1914
WOLFE, B. LEE, Associate Professor of Mining Engineering, University of Kansas, Lawrence, Kans. 1919
WOLFE, W. S., Instructor in Architectural Engineering, University of Illinois, Urbana, Ill. 1916
WOLFEL, PAUL L., Chief Engineer, McClintic-Marshall Co., Pittsburgh, Pa. 1910
WOOD, A. J., Professor of Railway Mechanical Engineering, Pennsylvania State College, State College, Pa. 1898
WOOD, E. H., Professor of Mechanics of Engineering, Cornell University, Ithaca, N. Y. 1910
WOODMAN, J. E., Professor of Geology and Director of Geological Museum, New York University, University Heights, New York, N. Y. 1912
WOODROW, JAY W., Professor of Physics, University of Colorado, Boulder, Colo. 1918
WOODS, HARLAND C., Professor of Civil Engineering, Robert College, Constantinople, Turkey; Care of Guaranty Trust Co. of New York, Trust Dept., 140 Broadway, New York, N. Y..... 1910
WOODWARD, R. S., President, Carnegie Institution of Washington, Washington, D. C. 1893
WOODWARD, S. M., Professor of Mechanics and Hydraulics, State University of Iowa, Iowa City, Ia. 1910
WOOSTER, L. F., Assistant Professor of Electrical Engineering, Oregon Agricultural College, Corvallis, Ore. 1912
WRIGHT, A. S., Professor of Modern Languages, Case School of Applied Science, Cleveland, O. 1907
WRIGHT, C. A., Professor of Electrical Engineering, The Ohio State University, Columbus, Ohio 1916
WRIGHT, D. M., Sec'y and Treasurer, The Henry & Wright Mfg. Co., 52 Irving St., Hartford, Conn. 1914

WROTH, B. B., Assistant Professor of Chemistry, Georgia School of Technology, Atlanta, Ga. 1919

WYMAN, F. T., Vice-President, Packard Electric Co., Ltd., St. Catherines, Ont. 1912

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YOE, JOHN HOWE, Adjunct Professor of Chemistry, University of Virginia, University, Va. 1920

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YOUNG, C. R., Associate Professor of Structural Engineering, University of Toronto, Toronto, Ont. 1914

YOUNG, G. A., Professor and Head of the Department of Mechanical Engineering, Director, Mechanical Engineering Laboratories, Purdue University, LaFayette, Ind. 1907

YOUNG, L. E., Manager, Steam Heating Utility, Union Electric Co., Room 805, St. Louis, Mo. 1910

ZELNER, O. S., Assistant Professor of Surveying, University of Minnesota, Minneapolis, Minn. 1910

ZIWET, ALEXANDER, Professor of Mathematics, University of Michigan, Ann Arbor, Mich. 1897

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Kentucky	6	Oregon	8	Hungary	1
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OCCUPATIONAL DISTRIBUTION OF MEMBERSHIP.

PHYSICS

Angel, Wm. P.
Ayres, F. H.
Ball, Albert.
Bevan, W. A.
Blake, Fred C.
Boreman, R. W.
Brown, S. L.
Charles, R. L.
Cole, Alfred D.
Cooper, F. L.
Dadourian, H. M.
Dodge, H. L.
Douglas, J. F. H.
Dysart, P. M.
Elliott, D. S.
Fisher, James.
Franklin, W. S.
Furia, John J.
Gilmore, L. H.
Graham, P. H.
Grondahl, L. O.
Ham, Wm. R.
Hamilton, J. O.
Hausman, Erich
Hedrick, Wm. A.
Hitchcock, Geo. G.
Hower, H. S.
Hoxton, L. G.
Hyde, E. P.
Knight, N. H.
Kovarik, Alois F.
LePage, Clifford B.
Lester, O. C.
MacNutt, Barry.
Mallory, Francis.
Marvin, H. H.
Mathews, H. B.
Miller, Dayton C.
Molby, F. A.
Norton, C. L.
Nyswander, R. E.
Ossa, Gaston.
Perry, Wm. S.
Person, Fred G.
Porter, R. A.
Prine, C. W.
Randolph, Oscar A.
Richtmyer, F. K.
Silvey, O. W.
Snader, David L.
Spinney, L. B.
Stewart, G. W.
Stewart, O. M.
Swaim, Verne F.
Wendell, G. V.
Wenrich, C. N.
Wheeler, L. P.
Woodrow, Jay W.

SANITARY ENGINEERING

Barney, S. E.
Case, George W.
Dunlap, J. H.
Eno, F. H.
Hawley, J. B.
Hering, Rudolph.
Hoad, W. C.
Kay, Edgar B.
Knowles, Morris.
Long, J. J.
Lund, Jacob.
Mead, D. W.
Naidu, K. S.
Osborn, G. M.
Saville, Thorndike.
Walker, Chas. L.
Walker, E. D.
Whipple, G. C.
Wiley, Ralph B.

SHOP AND MECHANIC ARTS

Airey, John.
Benedict, B. W.
Carlson, W. W.
Davis, E. S.
Eaton, J. S.
Ellis, Frederick.
Goddard, A. L.
Grennan, John
Hall, Burrill R.
Hall, P. R.
Hendry, W. S.
Hoexter, S. J.
Holmes, Paul E.
Johnson, E. A.
Jones, F. E.
Knight, W. A.
Krewson, R. H.
Lynch, D. E.
Morris, J. J.
Newhall, A. B.
Radebaugh, G. H.
Richards, Wm. H.
Rilliet, Chas. E.
Scott, Luther C.
Steele, J. N.
Turner, W. P.

MISCELLANEOUS

Arnett, L. D.
Avram, W. H.
Coster, E. L.
Fluddemann, R. O.
Richards, T. E.
Selby, L. B.
Thurstone, L. L.
Turner, C. A. P.

SUMMARY BY OCCUPATIONS.

Administration Officers:	*A*—College and University	138
	B—Industrial	94
Architecture		17
Agricultural Engineering		9
Chemistry		26
Civil Engineering		329
Electrical Engineering		215
Geology and Metallurgy		13
Industrial Engineering		3
Language		26
Machine Design and Drawing		67
Mathematics		90
Mechanical Engineering		224
Mechanics and Materials		54
Mining Engineering		25
Physics		57
Sanitary Engineering		19
Shop and Mechanic Arts		26
Miscellaneous		8
Total		1440

GROWTH OF MEMBERSHIP.*

Aug.	20, 1894.....	156	
Sept.	2, 1895.....	184	
Aug.	20, 1896.....	200	(about)
Aug.	16, 1897.....	203	
Aug.	18, 1898.....	226	
Aug.	17, 1899.....	238	
July	2, 1900.....	249	
June	29, 1901.....	261	
June	27, 1902.....	253	
July	1, 1903.....	271	
Sept.	1, 1904.....	325	
June	28, 1905.....	379	
July	2, 1906.....	400	
July	1, 1907.....	415	
June	27, 1908.....	675	
June	24, 1909.....	759	
June,	23, 1910.....	848	
June	27, 1911.....	1,071	
June	1912.....	1,102	
June,	1913.....	1,158	
March,	1914.....	1,339	
July	1, 1915.....	1,452	
March,	1916.....	1,504	
March,	1917.....	1,505	
March,	1918.....	1,506	
April,	1920.....	1,511	

* These figures are taken from the reports of the Secretary, presented at the annual meetings, except the figures for 1914 which were taken from the corresponding year book.

CONSTITUTION

OF THE

Society for the Promotion of Engineering Education

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1. NAME—This organization shall be called the SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.

2. MEMBERS—Membership in the Society shall be of two general classes, Institutional and Individual.

Institutional members shall be educational institutions giving instruction in engineering and scientific subjects.

Individual membership shall be of two classes, Active and Honorary. It shall comprise those persons who occupy or have occupied responsible positions in the work of engineering instruction, together with engineering practitioners and other persons interested in engineering education.

Honorary Members of the Society shall be such persons as may be recommended by unanimous vote of the Council after a letter ballot. In taking this ballot, the Secretary is directed to close the polls one month after the names of the candidates are sent out. Councilors not heard from will be counted in favor of the candidate. Honorary Members shall not have the right to vote, shall not be eligible to office, and shall not be required to pay any fees or dues.

Any individual member not in arrears for dues may become a Life Member by paying Fifty Dollars into the treasury of the Society at one time.

The name of each candidate for individual membership shall be proposed in writing to the Council by two members by whom he is personally known. In the case of a candidate for Institutional membership the name shall be proposed by any member familiar with the work of the institution on receipt of an application signed by a responsible officer thereof. Such name, if approved by the Council, shall be voted on by the Society at the annual meeting, a vote of three-fourths of those present being required to elect; or, during the period between annual meetings, an affirmative letter ballot of three-fourths of those members of the Council whose vote reaches the Secretary within one month from the time of sending out the name of the candidate shall elect. Such letter ballot elections shall be credited to the previous annual meeting and dues shall date from that time, except that elections to membership occurring after

February 1 shall be credited to the next annual meeting and the dues for the remainder of the year shall be one-half the annual dues.

3. Officers—There shall be a President, two Vice-Presidents, a Secretary and a Treasurer, each to hold office for one year, or until their successors have been elected and have qualified. The Officers shall be elected by ballot of the Society at the annual meeting.

4. Council—The Council of the Society shall consist of twenty-one elective members, one-third of whom shall retire annually. The Officers and the Past Presidents of the Society shall be members of the Council ex-officio.

Any member of the Society shall be eligible to election to the Council, provided that not more than one elective member shall be from any one college.

Members of the Council shall be elected by ballot by the Society at its annual meeting.

The Council shall constitute a general executive body of the Society, pass on proposals for membership, elect candidates ad interim, attend to all business of the Society, receive and report on propositions for amendments to the constitution, and shall have power to fill temporary vacancies in the offices.

The President of the Society shall be Chairman of the Council, and the Secretary of the Society shall be Secretary of the Council and shall keep the minutes of its meetings and an accurate record of all its actions.

When votes taken by letter ballot of the Council shall be required, all votes which reach the Secretary within one month from the time of sending out the ballots shall be counted, but votes reaching the Secretary later than the time here specified shall not be counted.

5. Nominating Committee—The Nominating Committee shall consist of the Past Presidents and the seven elective members of the Council retiring the following year, provided, however, that if, of this committee, the number in attendance at any meeting be less than five, the President shall make appointments so as to form a committee of five.

6. Fees and Dues—The admission fee for an individual, active member, which shall also include the first year's dues, shall be Four Dollars ($4.00), and the annual dues, which shall include the subscription price of the Bulletin, provided for in Art. 8, shall be Four Dollars ($4.00), payable at the time of the annual meeting.

The admission fee for institutional members, which shall also include the first year's dues, shall be Ten Dollars ($10.00), and the annual dues, which shall include the subscription price of three copies of the Bulletin, and of the Proceedings, provided for in Art. 8, shall be Ten Dollars ($10.00), payable at the time of the annual meeting.

The fiscal year shall end with the close (or adjournment) of the annual

meeting. Those in arrears more than one year shall not be entitled to vote, nor to receive copies of the PROCEEDINGS, and such members shall be notified thereof by the Secretary one month previous to the annual meeting. Any member who has been in arrears more than two years and duly notified by the Secretary, shall be dropped from the roll, until such arrearages are paid.

7. MEETINGS—There shall be an annual meeting at such time and place as the Society at the preceding annual meeting, or the Council may determine.

8. PUBLICATIONS—The publications of the Society shall include an annual volume of PROCEEDINGS, to be published and distributed to the membership as soon as possible after the annual meeting; and a monthly BULLETIN, to be published from September to June, inclusive.

9. AMENDMENTS—This Constitution may be amended by a two-thirds vote of those present at any regular meeting of the Society provided the amendment shall have been approved by the Council by letter ballot by a two-thirds vote of the members voting.

BY-LAWS OF THE SOCIETY AND RULES GOVERNING THE COUNCIL.

First. The Officers of the Society shall constitute a Committee to arrange for the annual meeting and to prepare a program for the same.

Second. The President, the Secretary and the Treasurer shall constitute an Executive Committee which shall have charge of all matters relating to the expenditure of money of the Society, the making of appropriations to Committees and for other purposes, the making of contracts, the approval of bills, and also during the period between the meetings of the Council shall have charge of other business affairs of the Society.

Third. Expenditures of money may be made only in accordance with a definite appropriation or by direct vote of the Executive Committee.

Fourth. Reading of papers shall be limited to fifteen minutes each or to such other time as may be designated by the Program Committee, and abstracts of papers of about three hundred words shall be printed when practicable, and distributed in advance to the members.

Fifth. The time occupied by each person in the discussion of any paper shall not exceed five minutes.

Sixth. The President, the Secretary and the retiring Secretary shall constitute a Publication Committee, of which the Secretary shall be Chairman, to edit and have charge of the publication of the monthly BULLETIN and the PROCEEDINGS of the Society, except the volume of Proceedings of the last convention, which shall be edited by the retiring

Secretary. If at any time there be no retiring Secretary the retiring President shall be a member of this Committee.

Seventh. The Officers, members of the Council and members of the local Convention Committee shall constitute a Committee on Sociability to introduce members and guests to each other at the annual meetings and in general to promote a spirit of good fellowship.

Eighth. The subscription price of the BULLETIN shall be Two Dollars per year, payable in advance.

Ninth. Additions or amendments may be made to these By-Laws at any regular meeting of the Society, on the recommendation of the Council by a two-thirds affirmative vote of the Council and of the Society.

PUBLICATIONS.

The publications of the Society can be obtained from the Secretary. The current issues are distributed gratuitously to members in good standing, one copy of each to each individual member and three to each institutional member. The price of the bound volumes of the PROCEEDINGS of former years is $2.50 to non-members, $2.00 to public libraries, and $1.50 to members for their own libraries.

The BULLETIN is issued monthly from September to June. The price to non-members is $2.00 per year. Libraries may order the BULLETIN and the PROCEEDINGS at $4.00 per year.

Reprints of papers may be ordered when the papers are in type form, and either with or without covers, at a price depending upon the number of pages and copies desired.

PAST OFFICERS

Special Committee for Division E, Engineering Education, World's Engineering Congress, 1893.

IRA O. BAKER, Chairman, HENRY T. EDDY, Vice-Chairman,
WM. R. HOAG, Secretary, C. FRANK ALLEN, Sec'y, *pro tem.*,
MORTIMER E. COOLEY, SAMUEL W. STRATTON,
STORM BULL.*

PRESIDENTS

DE VOLSON WOOD,* 1893–4,
GEORGE F. SWAIN, 1894–5,
MANSFIELD MERRIMAN, 1895–6,
HENRY T. EDDY, 1896–7,
JOHN B. JOHNSON,* 1897–8,
THOS. C. MENDENHALL, 1898–9.
IRA O. BAKER, 1899–1900,
FRANK O. MARVIN,* 1900–1,
ROBERT FLETCHER, 1901–2,
CALVIN M. WOODWARD,* 1902–3,
C. FRANK ALLEN, 1903–4,
FRED W. McNAIR, 1904–5,
CHARLES L. CRANDALL,* 1905–6,
DUGALD C. JACKSON, 1906–7,
CHARLES S. HOWE, 1907–8,
FRED. E. TURNEAURE, 1908–9,
HENRY S. MUNROE, 1909–10,
ARTHUR N. TALBOT, 1910–11,
WM. G. RAYMOND, 1911–12,
WM. T. MAGRUDER, 1912–13,
G. C. ANTHONY, 1913–14,
ANSON MARSTON, 1914–15,
HENRY S. JACOBY, 1915–16,
GEORGE R. CHATBURN, 1916–17,
MILO S. KETCHUM, 1917–18,
JOHN F. HAYFORD, 1918–19.

VICE-PRESIDENTS

SAMUEL B. CHRISTY,* GEORGE F. SWAIN, 1893–4,
ROBERT H. THURSTON,* FRANK O. MARVIN,* 1894–5,
FRANK O. MARVIN,* CADY STALEY, 1895–6,
JOHN GALBRAITH,* JOHN M. ORDWAY, 1896–7,
THOMAS C. MENDENHALL, HARRY W. TYLER, 1897–8,
C. FRANK ALLEN, HENRY W. SPANGLER,* 1898–9,
ROBERT FLETCHER, CHARLES D. MARX, 1899–1900,
THOMAS GRAY,* ALBERT KINGSBURY, 1900–1,
STORM BULL,* CALVIN M. WOODWARD,* 1901–2,
JOHN J. FLATHER, FRED W. McNAIR, 1902–3,
CHARLES L. CRANDALL,* JAMES C. NAGLE, 1903–4,
CLEMENT R. JONES, ELWOOD MEAD, 1904–5,
WILLIAM T. MAGRUDER, JOHN P. JACKSON, 1905–6,
R. C. CARPENTER, CHARLES S. HOWE, 1906–7,
CLARENCE A. WALDO, WILLIAM G. RAYMOND, 1907–8,
MORTIMER E. COOLEY, OLIN H. LANDRETH, 1908–9,
ARTHUR N. TALBOT, ARTHUR L. WILLISTON, 1909–10,
MILO S. KETCHUM, WILLIAM KENT, 1910–11,
G. C. ANTHONY, F. B. GILBRETH, 1911–12,
L. S. MARKS, F. W. SPERR, 1912–13,

* Deceased.

PAST OFFICERS.

H. S. JACOBY, D. C. HUMPHREYS, 1913–14,
H. H. NORRIS, C. RUSS RICHARDS, 1914–15,
G. R. CHATBURN, F. H. CONSTANT, 1915–16,
HOLLIS GODFREY, WM. M. THORNTON, 1916–17,
JOHN F. HAYFORD, IRA N. HOLLIS, 1917–18.
JOHN T. FAIG, E. R. MAURER, 1918–19.

TREASURERS

STORM BULL,* 1893–5,
JOHN J. FLATHER, 1895–9,
CLARENCE A. WALDO, 1899–1902,
ARTHUR N. TALBOT, 1902–4,
FRED. P. SPALDING, 1904–6,
ANSON MARSTON, 1906–7.

SECRETARIES

JOHN B. JOHNSON,* 1893–5,
C. FRANK ALLEN, 1895–7,
ALBERT KINGSBURY, 1897–9,
EDGAR MARBURG,* 1899–1900,
HENRY S. JACOBY, 1900–2,
CLARENCE A. WALDO, 1902–4,
MILO S. KETCHUM, 1904–6,
WILLIAM T. MAGRUDER, 1906–7,
ARTHUR L. WILLISTON, 1907–9,
HENRY H. NORRIS, 1909–14.

MEMBERS OF PREVIOUS COUNCILS

Terms of Office Expired in 1894.

M. E. COOLEY,
W. R. HOAG,
H. T. EDDY,
S. W. ROBINSON,*
R. H. THURSTON.*
W. F. M. GOSS,
H. W. SPANGLER,

Terms of Office Expired in 1895.

H. T. BOVEY,*
MANSFIELD MERRIMAN,
W. H. BURR,
W. G. RAYMOND,
DE VOLSON WOOD.*
O. H. LANDRETH,
G. F. SWAIN,

Terms of Office Expired in 1896.

I. O. BAKER,
JOHN GALBRAITH,*
STORM BULL,*
J. B. JOHNSON,*
C. D. MARX.
S. B. CHRISTY,*
F. O. MARVIN,*

Terms of Office Expired in 1897.

H. T. EDDY,
ALBERT KINGSBURY,
J. J. FLATHER,
L. S. RANDOLPH,
R. H. THURSTON.*
J. P. JACKSON,
S. W. ROBINSON,*

Terms of Office Expired in 1898.

C. F. ALLEN,
J. M. ORDWAY,
C. L. MEES,
W. G. RAYMOND,
R. S. WOODWARD.
MANSFIELD MERRIMAN,
CADY STALEY,

* Deceased.

MEMBERS OF PREVIOUS COUNCILS.

Terms of Office Expired in 1899.

Arthur Beardsley,	Robert Fletcher,	John Galbraith,*
William Kent,	T. C. Mendenhall,	W. H. Schuerman,
	M. E. Wadsworth.	

Terms of Office Expired in 1900.

Storm Bull,*	L. G. Carpenter,	Albert Kingsbury,
F. O. Marvin,	R. B. Owens,	R. L. Sackett,
	R. H. Thurston.*	

Terms of Office Expired in 1901.

T. N. Drown,*	M. A. Howe,	I. N. Hollis,
Gaetano Lanza,	P. C. Ricketts,	R. G. Thomas,
	C. M. Woodward.*	

Terms of Office Expired in 1902.

Brown Ayres,	G. W. Bissell,	J. J. Flather,
W. T. Magruder,	F. W. McNair,	J. M. Porter,
	A. J. Wood.	

Terms of Office Expired in 1903.

C. F. Allen,	D. C. Jackson,	N. C. Ricker,
J. P. Brooks,	Edgar Marburg,	A. L. Williston,
	J. C. Nagle.	

Terms of Office Expired in 1904.

W. F. M. Goss,	Thomas Gray,*	D. C. Humphreys,
O. H. Landreth,	W. G. Raymond,	L. E. Reber,
	L. S. Randolph.	

Terms of Office Expired in 1905.

Wm. Esty,	L. J. Johnson,	W. M. Towle,
H. S. Jacoby,	Elwood Mead,	J. L. Van Ornum,
	Edward Orton, Jr.	

Terms of Office Expired in 1906.

John Galbraith,*	Charles S. Howe,	Walter M. Riggs,
Frederick P. Spalding,	Henry W. Spangler,*	Fred. E. Turneaure,
	Herman K. Vedder.	

Terms of Office Expired in 1907.

Thomas Gray,*	James C. Nagle,	William G. Raymond,
Louis E. Reber,	Arthur N. Talbot,	Clarence A. Waldo,
	Robert S. Woodward.	

Terms of Office Expired in 1908.

Victor C. Alderson,	Arthur H. Ford,	H. P. Talbot,
Francis C. Caldwell,	Henry S. Munroe,	A. L. Williston,
	Frederick W. Sperr.	

* Deceased.

MEMBERS OF PREVIOUS COUNCILS.

Terms of Office Expired in 1909.

Charles F. Burgess, John F. Hayford, Thomas W. Palmer,
Arthur M. Greene, Jr., Milo S. Ketchum, Joseph A. Thaler,
Henry H. Norris.

Terms of Office Expired in 1910.

Fred W. Atkinson, Walter B. Russell, William S. Franklin,
Mortimer E. Cooley, William Kent, Charles F. Scott,
Harold B. Smith.

Terms of Office Expired in 1911.

Lester P. Breckenridge, Lewis J. Johnson, William G. Raymond,
Thomas Gray,* William T. Magruder, Herman Schneider,
Clarence A. Waldo.

Terms of Office Expired in 1912.

Frank H. Constant, H. Wade Hibbard, Edw. R. Maurer,
Frederick A. Goetze, John H. Leete, John C. Ostrup,
Chas. Russ Richards.

Terms of Office Expired in 1913.

C. H. Benjamin, E. E. Brydone-Jack, J. F. Hayford,
G. W. Bissell, W. H. P. Creighton, C. Russ Richards,
H. W. Tyler.

Terms of Office Expired in 1914.

J. E. Boyd, F. L. Emory, J. A. L. Waddell,
C. H. Crouch, C. E. Magnusson, A. J. Wood,
H. H. Stoek.

Terms of Office Expired in 1915.

F. L. Bishop, O. P. Hood, W. B. Snow,
G. R. Chatburn, G. D. Shepardson, J. C. Tracy,
F. P. McKibben.

Terms of Office Expired in 1916.

J. F. Hayford, A. S. Langsdorf, P. F. Walker,
M. S. Ketchum, F. P. Spalding, S. M. Woodward,
H. W. Tyler.

Terms of Office Expired in 1917.

R. H. Fernald, A. M. Greene, Jr., D. C. Miller,
A. H. Fuller, E. V. Huntington, W. M. Riggs.
V. Karapetoff,

Terms of Office Expired in 1918.

L. P. Breckenridge, C. H. Crouch, F. P. McKibben,
C. L. Coby, O. P. Hood, G. D. Shepardson,
J. B. Whitehead.

Terms of Office Expired in 1919.

A. H. Blanchard, T. E. French, F. G. Higbee,
W. H. Browne, Jr., R. W. Gay, E. J. McCaustland,
A. A. Potter.

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* Deceased.

DECEASED MEMBERS.

Name.	Year of Election.	Date of Death.	Memoir. Vol. Page.
C. L. Adams	1904	Sept. 16, 1914.	XXII, 414
Philip R. Alger	1909	February 23, 1912.	XX, Part II, 491
William A. Anthony	1907	May 29, 1908.	XVI, 409
George W. Atherton	1904	July 24, 1906.	XIV, 292
Warren Babcock	1908	May, 1913.	XXI, 434
Volney C. Barbour	1894	June 4, 1901.	IX, 340
G. E. Bray	1915	September 1, 1917.	
Charles B. Brush	1893	June 3, 1897.	VII, 181
Storm Bull	1893	November 18, 1907.	XVI, 407
Octave Chanute	1907	November 23, 1910.	XIX, 501
S. B. Charters, Jr.	1911	December 29, 1912.	XX, Part II, 493
S. B. Christy	1893	November 30, 1914.	XXII, 415
Elmer Corthell	1895		
Eckley B. Coxe	1894	May 13, 1895.	VII, 182
Chas. L. Crandall	1893	August 25, 1917.	
E. W. Davis	1902	February 3, 1918.	
Chas. S. Denison	1893	July 31, 1913.	XXII, 411
W. P. Dickinson	1909	November 4, 1915.	
A. J. DuBois	1894	October 19, 1915.	XXV, 243
Louis Duncan	1904	March 12, 1915.	XXIV, 337
Thomas M. Drown	1895	November 16, 1904.	XII, 244
Chas. B. Dudley	1894	December 21, 1909.	XVIII, 446
Sam. Chandler Earle	1909	July 20, 1917.	XXV, 246
A. C. Einstein	1911		
Francis R. Fava, Jr.	1894	March 28, 1896.	VII, 183
A. J. Frith	1911	November 10, 1913.	XXI, 435
Albert E. Frost	1908	May 11, 1917.	XXV, 245
Estevan A. Fuertes	1894	January 16, 1903.	XI, 372
Henry Fulton	1894	December 6, 1901.	X, 258
John Galbraith	1893	July 22, 1914.	XXII, 410
Albert F. Ganz	1903	July 27, 1917.	
Thomas Gray	1895	December 19, 1908.	XVII, 238
Wm. F. Gurley	1913	February 17, 1915.	XXII, 417
Herbert G. Greer	1894	March 7, 1900.	VIII, 371
K. E. Guthe	1897	February 13, 1916.	XII, 249
Lyman Hall	1904	August 16, 1905.	XIV, 287
E. L. Hancock	1903	October 1, 1911.	XIX, 505

DECEASED MEMBERS.

Name.	Election. Year of	Date of Death.	Memoir. Vol. Page.
A. E. Haynes.....	1895....	Sept. 15, 1916.	XXIV, 339
Albert H. Heller.....	1903....	February 20, 1906.	XIV, 290
H. R. Huelle.....	1914....		
John B. Johnson.....	1893....	June 23, 1902.	X, 259
J. W. Johnson.....	1907....	August 29, 1911.	XIX, 506
Rodney G. Kimball....	1894....	April 25, 1900.	X, 261
Burton S. Lanphear...	1914....	October 14, 1904.	XXIV,
Benjamin F. La Rue..	1899....	December 22, 1903.	XII, 243
N. W. Lord.....	1907....	May 23, 1911.	XIX, 507
C. S. Magowan.....	1896....	November 14, 1907.	XVI, 406
F. O. Marvin.....	1893....	February 11, 1915.	XXII, 416
Charles P. Matthews.	1898....	November 23, 190 .	XVI, 408
J. W. Muldowney.....	1912....	October, 1916.	XXIV, 340
J. D. Newton.....	1908....	August 8, 1912.	XX, Part II, 490
Chas. H. Parmly.....	1912....	September 7, 1917.	
T. M. Phetteplace....	1903....	September 7, 1913.	XXI, 436
F. H. Robinson.....	1894....	January 15, 1916.	XXIV, 341
S. W. Robinson.....	1893....	October 31, 1910.	XXIV, 510
E. F. Roeber.....	1909....	October 17, 1917.	
H. A. Sayre.....	1910....		
J. D. Schuyler.....	1910....	Sept. 13, 1912.	XX, Part II, 494
Justice M. Silliman...	1894....	April 15, 1896.	VII, 184
A. G. Smith.....	1909....	1916.	
T. Gulliford Smith....	1911....	February 20, 1912.	XX, Part II, 492
H. W. Spangler.....	1893....	March 17, 1912.	XX, Part II, 488
D. W. Spence.....	1914....	June, 1917.	
James H. Stanwood....	1894....	May 24, 1896.	VII, 185
F. H. Stillman.....	1911....	February 18, 1912.	XX, Part II, 490
Joseph E. Stubbs.....	1897....	May 27, 1914.	XXII, 412
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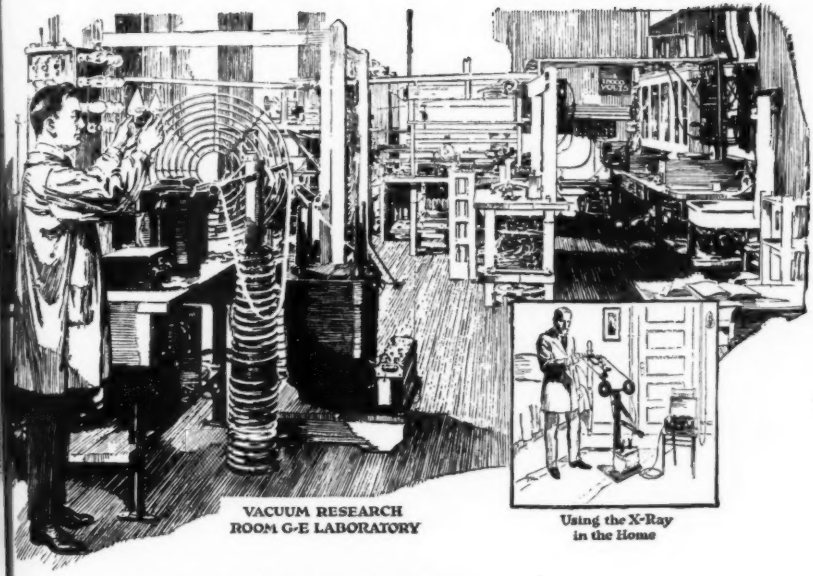

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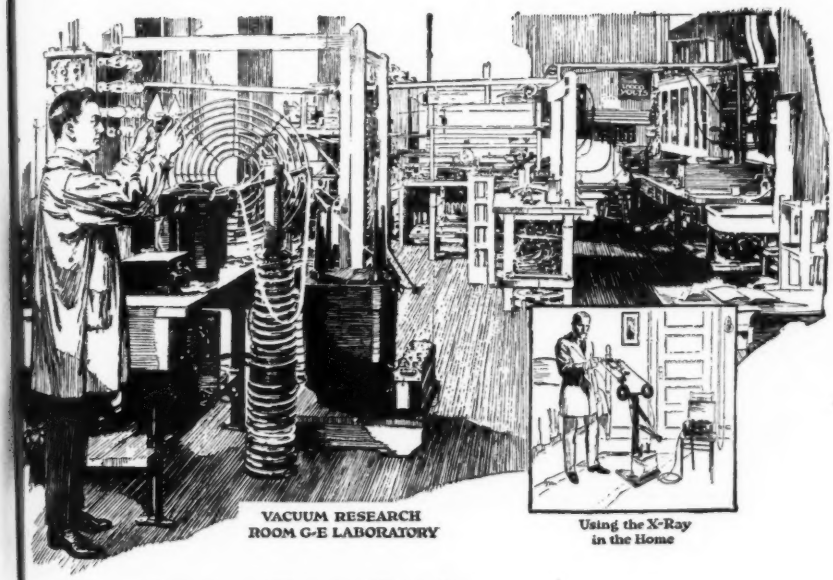

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